The Mining Journal
AND ATMOSPHERIC RAILWAY GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 605.—Vol. XVII. LONDON, SATURDAY, MARCH 27, 1847. [Price 6d.

MINING SETT AND MATERIALS FOR SALE, IN HARROWBARROW CONSOLS, CALSTOCK, CORNWALL.

TO BE SOLD, BY PUBLIC AUCTION, on Tuesday, the 30th day of March inst., at Twelve o'clock noon, by Mr. R. PETER, auctioneer, either in one lot, with the sett (17 years of which are unexpired) in Harrowbarrow Consols Mine aforesaid, or in such other lots as shall be agreed on at the time of sale, the undermentioned 1

VALUABLE MINING MATERIALS:

Comprising 2 whim stands, pulleys, poppet-heads and traces, whim and tackle ropes and chain, 2 capstan pulleys, 9 whim and winze kibbles, 2 pieces of Norway balk, 1 piece of half timber, 1 piece of American timber, a quantity of new and old plank, shaft casing, 8-gallon water-barrel (new), 2 copper sieves, 1 dozen sieves, a quantity of nails, barrel of tar, barrel of grease, shaft ladder, 43 fathoms of double tram rails, 6 tram wheels, tram saddles, bucking plate, 1 dozen landing and wheelbarrows, 1 dozen shovels, quantity of shovel and pick hilts, stove, quantity of hoop, bar, flat, round, and other iron, bar of gad steel, quantity of powder, safety fuse, powder cans, and barrels, candles and boxes, 2 work benches, smiths' bellows, anvils, sledges and hammers, crane, quantity of smiths' and miners' tools, of every description, forge trough and canopy, screw plates and taps, miners' and other chests, jigging butch and launders, grinding stone, weighing beam, 2 tables and forms, cupboard, suit of underground clothes, and a great quantity of other useful MINING and OTHER MATERIALS.—Also, a quantity of useful and OLD IRON.

For viewing the same, apply to Capt. Cook, at Harrowbarrow, aforesaid; and for further particulars, to the auctioneer; or to Mr. S. Benny Serjeant, solicitor, Callington.

Dated Callington, March 17, 1847.

ON SALE, BY PRIVATE CONTRACT, at the PROVIDENCE MINES, near ST. IVES, an excellent 30-inch cylinder STEAM PUMPING-ENGINE, with boiler, about 7 tons.—For duty performed, see *Lean's Reporter*, 1844 and 1845. 2

50 Fathoms 9-inch PUMPS, 30 fathoms 8-inch ditto, and other sizes.
1 11-inch doorpiece, 1 6-inch ditto.
1 8-inch working barrel, 1 6½-inch ditto.
Rod-plates, fend-off bobs, rod-shieves, whim-shieves, shaft rollers, bucket-door, windbores, and a variety of other articles.

Apply to Capt. Penberthy, on the mines; or Samuel Higgs and Son, Penzance.

Dated March 10, 1847.

ONE LARGE PUMPING-ENGINE.—TO BE SOLD, BY PRIVATE CONTRACT, at GODOLPHIN MINES, Helston, Cornwall, one 80-inch pumping-engine, 10 feet stroke in the cylinder, and 8 feet in the shaft, with three tubular boilers of about 35 tons, a balance-bob and top-piece of rod to each. This excellent engine was erected by one of the first engineers in the county; the air-pumps are lined with brass, and the whole of the machinery possesses great strength and durability. It has done a "duty" equal to the first in Cornwall, and is well worth the attention of any gentleman or company requiring such a powerful machine. The engine will be sold with or without the boilers, balance-bobs, &c., as may best suit the purchasers. 3

Application to be made to Capt. R. Williams, on the mines.

Dated Godolphin Mines, Helston, Cornwall, February 25, 1846.

TO BE SOLD—TWO HIGH-PRESSURE STEAM-ENGINES—one 40 and the other 30-horse power, calculated at 30 lbs. pressure. These engines are entirely new, and are very strongly built, having been intended for driving heavy machinery, and are not now required. 4

For particulars apply to Mr. Mathew Smith, 26, Button-lane, Sheffield.

DEVON.—TO BE LET, on liberal and most advantageous terms, a MANGANESE MINE. The manganese is of first-rate quality; a course of LEAD runs through a part of the sett, which has never been worked, and there are strong indications of COPPER. The ground is of so favourable a nature, that no steam-engine will be required, as all the water may be taken off by level.

Also, TO BE LET, OR SOLD, a COAL-FIELD, containing about ONE HUNDRED and FIFTY ACRES, of excellent quality unworked coal, situate in Dean Forest, adjoining the Gloucester and Dean Forest Railway. 5

Apply to Mr. Tripp, sharebroker and mine agent, 12 and 13, High-street, Exeter, who has ON SALE, SHARES in the Dartmoor Consols Tin Mining Company, Bristol Water-Works, Great Western, Bristol and Exeter, and North Western Railway Debentures, &c.

Exeter, March 25, 1847.

SWINDON IRON-WORKS.—TO BE DISPOSED OF, BY PRIVATE TREATY, with immediate possession, these desirable WORKS, consisting of FORGE and BOILER-PLATE and SHEET MILLS, on the banks of the Staffordshire and Worcestershire Canal, at SWINDON, near Wombourn.

The forge is amply worked by water-power, and the mills by a newly-erected steam-engine, of 40-horse power, and a large sum has lately been expended in the improvement of these works. The premises are leasehold, at a very moderate ground rent, with the right of removing all erections placed by the lessee on them. 6

For further particulars apply to Messrs. E. and G. Thorneycroft, at the Swindon Works; or to Mr. Robinson, solicitor, Wolverhampton.

TO BE LET, the PARK-HILL MINES, DEAN FOREST, GLOUCESTERSHIRE—containing ONE MILLION TONS OF COAL, and ONE MILLION TONS of rich IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post-paid) to Henry H. Fryer, Esq., solicitor, Coleford, Gloucestershire. 7

FOR SALE—AUSTRIAN IRON-WORKS, with a LARGE DOMINION, of a value over £300,000.—These works, as one of the most important establishments of the Austrian Empire, are furnished with rich MINES of IRON-STONE, large quantities of WOOD and COALS, some BLAST and REFINING FURNACES, and PLATE ROLLERS. They are situated not distant of the Imperial Railroad. The proprietor is inclined either to dispose of the whole, or, if preferred, to interest himself with a third share. 8

Capitalists, who are disposed to buy or enter into partnership, to address themselves, for particulars, direct to Mr. F. WALLAND ALSER VORSTADT, No. 318, in Vienna.

STEAM COAL.—PARTNER WANTED in WINNING a COAL-FIELD, in NORTHUMBERLAND, comprising upwards of TWO THOUSAND ACRES of first-rate STEAM COAL, similar to the "West Hartley." 9

Apply to Mr. Francis Turner, colliery viewer, 2, Regent-terrace, Newcastle-on-Tyne.

STEAM COAL—WITHOUT SMOKE, as per experiments made at her Majesty's Dockyard, Woolwich.

CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.) 10

OFFICES—3, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 18, 1846.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this." 11

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public. 12

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

PATENT GALVANISED IRON AND WIRE ROPE WORKS, *MILLWALL, POPLAR.* 13

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £30, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.—Mr. J. S. Trugellas, Truro, agent for Cornwall.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £9 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 14

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

DYFNGWM LEAD MINES, MONTGOMERYSHIRE.—

Capital £30,000, in 3000 shares, of £10 each.—Deposit £5 per share. 15

Two-thirds of which are retained by the present proprietor.

Applications for shares to be made to Mr. Hays, hon. secretary, 2, Cowper's-court, Cornhill; or to Mr. E. K. Randell, solicitor, 23, Birchin-lane—of whom prospectuses may be had.—Also, a report of Capt. Matthew Francis, who has lately inspected these mines, with plans, specimens, and every information obtained.

N.B.—The last cargo of lead shipped from these mines, in January, 1847, assayed 77½ per cent., being 7 ozs. 15 dwts., or 1 dwt. above the standard.

ESGAIR-Y-MWYN MINE COMPANY.

Capital £25,000, in 2500 shares, of £10 each.—Deposit £5 per share. 16

(ESTABLISHED ON THE COST-BOOK PRINCIPLE.)

This company is formed for working the celebrated LEAD MINE, called ESGAIR-Y-MWYN, which has been one of the most productive and profitable ever discovered in CARDIGANSHIRE—a county famed in the mining annals of Wales. This property is held under the Crown, by lease, from her Majesty's Commissioners of Woods and Forests.

The immense profits which this mine has produced, at a trifling cost, would appear incredible, but that the authenticated accounts can be seen at the office.

It has been reported upon by several mining engineers—all of whom concur in opinion, that, with a moderate outlay, it is certain to produce greater profits than ever.

The full prospectus, with all the reports, maps, &c., the terms upon which the mine and machinery have been purchased, and all other information, will be afforded by the secretary, Mr. Hiatt, at the CROWN MINES OFFICE, 84, Basinghall-street, to whom all applications for shares must be addressed; and copies of the prospectuses may be had, on application to Mr. Henry English, mining engineer, 25, Fleet-street, who will afford information as to the mine, and the prospects presented.

ESGAIR-Y-MWYN MINE COMPANY.—NO FURTHER APPLICATIONS for SHARES in this company will be RECEIVED after MONDAY, the 5th of April. 17

PANTDRAINIOG QUARRY SLATE COMPANY, Bangor.

(PROVISIONALLY REGISTERED.)

It having been represented by several parties, that owing to the state of the money market further time should be allowed for the payment of the deposits, notice is hereby given, that the bankers will continue to receive the deposits on shares which have been allotted until WEDNESDAY, the 7th day of April next, after which the letters not paid upon will be held as definitely CANCELLED. J. H. MURCHISON, Sec. pro tem. 18

19, Essex-street, Strand, March 26, 1847.

COOMBE VALLEY SLATE COMPANY.

Capital £5000, in 1000 shares, of £5 each.—Deposit £1 per share.

CONDUCTED ON THE COST-BOOK SYSTEM.

OFFICE, No. 5, WHITEFRIARS-STREET, FLEET-STREET, LONDON.

BANKERS.—Messrs. Williams, Deacon, and Co. 19

At a meeting of the committee, held at the office, on Thursday last, two-thirds of the above number of shares were allotted to a portion of the numerous applicants; the remaining number are for disposal to any parties making personal application to Mr. James Lane, 75, Old Broad-street, City, or at the office. C. S. RICHARDSON, Sec.

MERIONETHSHIRE SLATE & SLATE SLAB COMPANY.

Incorporated 7 and 8 Victoria.

Notice is hereby given to the HOLDERS of SCRIP in this company, that they are required to send in the same to the company's office, on or before the 29th March, for registration; and that, failing so to send in and register such scrip by the 29th inst., the directors will, as they are empowered to do, forthwith proceed to register the same in the names of the parties to whom the shares were originally allotted. 20

Company's Office, 5, Walbrook, London, March 22, 1847.

GEORGIA TIN MINES, divided into 2048 shares, and worked *ON THE COST-BOOK SYSTEM.*

The necessary arrangements having been made for carrying out the operations of the company, all future communications are requested to be addressed to the offices of the company, 21, THROGMORTON-STREET, LONDON, where the specimens and plans with the correspondence, may be seen. 21

CALLINGTON MINES COMPANY.—The Fourth Annual General Meeting of shareholders was held at the offices of the company, No. 44, Finsbury-square, London, on Friday, the 19th March inst. 22

RICHARD HODGSON, Esq., in the chair.

After the reading of the reports of the directors and mine agents, the following resolutions were passed:—

Proposed by Mr. G. Mackay, seconded by Mr. R. James, and carried unanimously,

Resolved,—That the reports and accounts, now read, be received, adopted, and entered in the cost and transfer-book.

Proposed by Mr. W. James, seconded by Mr. John Matthey, and carried unanimously,

Resolved,—That John Field, jun., Esq., be re-elected a director of this company.

Proposed by Mr. W. James, seconded by Mr. R. James, and carried unanimously,

Resolved,—That Messrs. Hammond and Leary be elected the auditors for the current year.

Proposed by Mr. R. James, seconded by Mr. G. Mackay, and carried unanimously,

Resolved,—That the very best thanks of this meeting be given to the chairman and directors, for their careful management of the company's affairs, and the efficient manner in which they have discharged the duties of their office.

RICHARD HODGSON, Secretary.

LAMHEROOE WHEAL MARIA.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the adventurers, or shareholders, in this mine, will be HELD at 4, King-street, Cheapside, London, on Tuesday, the 30th day of March inst., at Two o'clock in the afternoon precisely, for the purpose of receiving my resignation as the purser, and for the appointment of another purser in my room. 23

Callington, March 18, 1847. G. W. SNELL, Purser.

LAMHEROOE WHEAL MARIA MINING COMPANY.—At a Special General Meeting of adventurers in the above mine, held pursuant to advertisement and circular, under date of the 6th inst., at the offices, No. 4, King-street, Cheapside, London, on Thursday, the 18th of March, 1847,

CHARLES HILL, Esq., in the chair:

The notice convening the meeting having been read, the following resolutions were unanimously carried:— 24

Moved by Mr. Addis, and seconded by Mr. Comer,

That a special general meeting of the adventurers, or shareholders, in the mine be held at 4, King-street, Cheapside, London, on Tuesday, the 30th day of March inst., at Two o'clock in the afternoon precisely, for the purpose of receiving the resignation of the office of the purser, and for the appointment of another person in his stead.

Moved by Mr. Sunley, and seconded by Mr. Addis,

That a call of £1 per share be now made—the same to be paid into the hands of the bankers of the company, at the London and Westminster Bank (Southwark Branch), on or before the 18th day of April next; and that the purser, Mr. G. W. Snell, give notice of the same to the several shareholders.

Moved by Mr. Sunley, and seconded by Mr. Comer,

That the call of £1 per share, made payable on the 5th of April next, be rescinded; and that a call of £1 per share be now made, in lieu thereof, payable on or before the 19th day of April next, into the bankers of the company, the London and Westminster Bank (Southwark Branch), and that notice of the same be issued by the purser.

The thanks of the meeting were passed unanimously to the chairman, and the meeting adjourned. G. W. SNELL, Purser.

WHEAL CONCORD MINING COMPANY.—At a Meeting of the shareholders, or adventurers, in Wheal Concord Mine, held at 4, King-street, Cheapside, London, in pursuance of Notice, bearing date the 12th day of March, 1847, at Three o'clock in the afternoon, for the purpose of making a further call, and on other business, 25

JONATHAN PICKERING, Esq., in the chair,

It was proposed by Mr. John Hays, and seconded by Mr. Weekes,

That the calls of 10s., due 1st January, 1847, and 10s., due 27th February, 1847, be rescinded, and that a call of £1 per share be now made, in lieu thereof, to be paid forthwith into the hands of the bankers of the company, the London and Westminster Bank (Southwark Branch), London; and that notice of the same be given to each shareholder by the purser.—Carried unanimously.

It was proposed by Mr. John Hays, and seconded by Mr. English,

That a call of £1 per share be now made, to be paid into the hands of the bankers of the company, the London and Westminster Bank (Southwark Branch), London, on or before the 22d day of April next; and that the purser give notice of the same to each shareholder.—Carried unanimously.

It was proposed by Mr. Weekes, and seconded by Mr. Hays,

That the purser be instructed to enforce the immediate payment of all calls now in arrear; and that such proceedings be taken against each individual shareholder now in arrear, as may be deemed expedient; and that this meeting do hereby indemnify him from the costs he may incur in taking such proceedings—such arrears of calls, when recovered, to be paid into the hands of the bankers of the company.—Carried unanimously.

JONATHAN PICKERING, Chairman.

A vote of thanks was unanimously carried to the chairman, for his able conduct in the chair. G. W. SNELL, Purser.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 26

22, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in the branches of assaying and analysis as usual.

TO ENGINEERS, IRONFOUNDERS, AND OTHERS.—

The COMMERCIAL GAS-LIGHT AND COKE COMPANY, BEN JONSON'S-FIELDS, STEPNEY.—The directors will meet at the works on Wednesday, the 31st inst., at Twelve o'clock at noon, to RECEIVE TENDERS for the CONSTRUCTION of a CAST-IRON TANK, on building, 36 feet by 20—by 4 feet, with 15 cast-iron girders and sash frames.—Plans and specifications may be seen, and particulars obtained, on application to Mr. Isaac Mercer, the company's engineer, at the works, between the hours of Ten and Two.—The directors do not bind themselves to accept the lowest tender. 27

March 17, 1847. By order of the board, J. JAQUES, Secretary.

IRON TRADE.—Messrs. THOS. AND CHAS. HOOD, IRON MERCHANTS, EARL-STREET, BLACKFRIARS, LONDON,

Having been much inconvenienced by repeated applications respecting goods supposed to be supplied to their house, for which they have not given orders, and by the delivery to them of letters intended for other parties, and the delivery to other parties of letters addressed to them, beg to state, that they have NO OTHER ESTABLISHMENT than that in Earl-street—nor any connection whatever with any other house in London of the same name. 28

TO IRONFOUNDERS AND MANUFACTURERS OF IRON SHIPS, STEAM-ENGINES, LOCOMOTIVES, &c.—TO BE DISPOSED OF, an ESTABLISHMENT, now in full working order, where the ABOVE BRANCHES of the IRON TRADE, and all minor ones, may be CARRIED ON to the greatest advantage. 29

For particulars apply to Mr. R. Roberts, slate merchant, Chester.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 30

MESSRS. J. PAINTER AND CO, SHAREBROKERS, MINING AND GENERAL AGENTS,

25, CASTLE-STREET, LIVERPOOL,

AFFORD EVERY INFORMATION as to the STATE of the MARKETS, PRICES, upon application. 31

MR. R. TREDINNICK, MINING AGENT AND DEALER IN EVERY DESCRIPTION OF SHARES. 32

THREE KING'S COURT, LOMBARD-STREET, LONDON.

MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

WATSON AND CUELL, MINE AGENTS. 33

N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain.

THOMAS P. THOMAS, MINE AGENT, AND DEALER IN RAILWAY AND OTHER SHARES. 34

18, *THREADNEEDLE-STREET, LONDON.*

MESSRS. LINTHORNE, JONES, AND CO., STOCK, MINING, AND SHARE AGENTS.

*** Every information will be afforded as to the markets and prices of the above, by application (post paid) at their offices, 35

48, *THREADNEEDLE-STREET, LONDON.*

WILLIAM H. SMITH, MINING SHARE AGENT, 10, *WARNFORD-COURT, THROGMORTON-STREET,* has SHARES FOR SALE in the following MINES—viz.: 36

WHEAL LOUISA,	ALBERT CONSOLS,
WHEAL BLENCOWE,	WEST SHEPHERD,
WHEAL MARY PENTUAN,	VICTORIA TIN MINING COMPANY.

*** Every information will be afforded on application.

MESSRS. R. CLARK & CO. beg to acquaint their friends and the public in general, that they have taken OFFICES as below, where they intend to carry on BUSINESS as STOCK, SHARE, and MINING AGENTS; relying with confidence upon the method adopted by them for conducting all business entrusted to their agency, Messrs. R. C. & Co. solicit a continuance of that support it will be, by strictest attention to all orders, their endeavour to deserve. 37

N.B.—Money advanced upon scrip and other securities.

3, Austinfriars, Broad-street, Oct. 17, 1846.

JONATHAN DAVEY, MINE AGENT, SURVEYOR, AND SHAREBROKER, 38

MATTHEW-STREET, TAVISTOCK.

Mines surveyed, inspected, and reported on, at the shortest notice; plans, sections, and dialling performed, by day or contract.

JAMES LANE, MINING SHARE DEALER, 39

75, *OLD BROAD-STREET, LONDON.*

TRELEIGH CONSOLIDATED MINING COMPANY.— The directors hereby give Notice, that a MEETING of the shareholders will be HELD, at the office, on Monday, the 5th April next, at One o'clock precisely, when the accounts, for three months, ending the 31st March, will be laid before them; also, to take into consideration other matters, which will be submitted to the meeting. 40

57, Old Broad-street, March 15, 1847. W. NICHOLSON, Sec.

IMPERIAL BRAZILIAN MINING ASSOCIATION, Winchester House, Broad-street, London, March 25, 1847.—Since the circular addressed to the shareholders, under date of the 2d inst., intimating the postponement of the call of 2*l.* per share, due the 29th inst., until further notice, despatches have been received from Brazil of a satisfactory character, although they do not advise the completion of the title to the estates of Bananal, &c. Under these circumstances, and to prevent inconvenience to shareholders in respect to the transfer of shares, the directors have determined to and do hereby ANNUL and entirely DISCHARGE the above CALL; and so soon as they hear that the titles have been finally arranged will make a new call in lieu thereof, of which due notice will be given. GEORGE THOMAS, Acting Director. 41

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED PATENT ELASTIC METALLIC PISTONS. 42

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is—

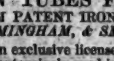
1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.



TO ENGINEERS AND BOILER-MAKERS. 43

LAP-WELDED IRON TUBES FOR STEAM-BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY,

42, *CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE,*

MANUFACTURE TUBES under an exclusive license from Mr. Richard Prosser, the patentee. These tubes are now very extensively used in the boilers of marine and locomotive steam-engines in England and on the continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and warranted not to open in the weld. They may be fixed in the boilers without ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham.

LONDON WAREHOUSE,

68, *UPPER THAMES-STREET.*

TO ENGINEERS, BOILER-MAKERS, AND OTHERS.— 44

LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.

W. H. RICHARDSON, Jun., & CO., DARLASTON,

STAFFORDSHIRE,

MANUFACTURE all DESCRIPTIONS of WELDED WROUGHT-IRON TUBES, for STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. Roose's recent invention (patented August, 1846).—Address as above.

IMPORTANT TO RAILWAY COMPANIES. 45

PATENT KAMPTULICON COMPANY, 18, CORNHILL.

This company having completed their new factory, are prepared to supply railway managers and contractors with an elastic material (perfectly non-absorbent) to place between the rails and sleepers, and between the frames and bodies of carriages, to prevent jarring, and, consequently, wear and tear. The elastic planking is strongly recommended to be used for the backs and sides of carriages, to prevent splinters when accidents occur.

By order of the board. P. G. GREVILLE, Secretary.

IMPROVEMENTS IN FILTERING WATER FOR STEAM-ENGINES.

[Specification of patent granted to NICHOLAS HARVEY, of Hayle Foundry, in the parish of St. Erth, in the county of Cornwall, for certain improvements in filtering of water for steam-engines and boilers: dated Sept. 3, 1846; enrolled March 3, 1847.]—*Patent Journal.*

This invention relates to the construction of filters to be used in connection with steam-engines and boilers, and consists in so arranging and adapting them to the hot-wells of steam-engines, and that the many disadvantages resulting from the incrustation in boilers would be seldom, if ever, known. For this object, the patentee prefers to employ compressed sponge, through which the water, during the process of filtering, passes—a pressure being exerted beneath the sponge by the action of force pumps, for the purpose of driving it through; the effect of which causes the sponge to arrest, during the passage of the water, the mud or sediment, which it afterwards deposits in a suitable chamber, preparatory to its being taken or cleared away, as hereinafter explained.

The accompanying engraving, by reference to the letters thereunto annexed, will represent at fig. 1, a vertical section of a single cylinder, or filtering apparatus; *a*, *a*, represents the cylindrical or outward castings; *b*, *b*, the fixed plate or perforated partition, sustaining the pressure of the sponge from above; *c*, *c*, the compressed sponge, or filtering material; *d*, *d*, the perforated pressure plate; *e*, *e*, circular weights; *f*, *f*, connecting rods or shafts, on which are fitted the accumulating pressure weights; *g*, *g*, stuffing boxes; *h*, *h*, egress pipes, for supplying the feed; *i*, an inverted conical diaphragm, placed underneath the compressed sponge, or filtering material, having a hole or opening, *j*, at its apex, through which the mud or sediment passes; *k*, the mud or sediment chamber; *l*, a sediment release tube; *m*, the ingress, or supply pipe to the filterer; *n*, *n*, a funnel-shaped tap, situated at the top of the cylinder, for supplying water to the apparatus, for the purpose of washing the sponge or filtering material.

Fig. 1.

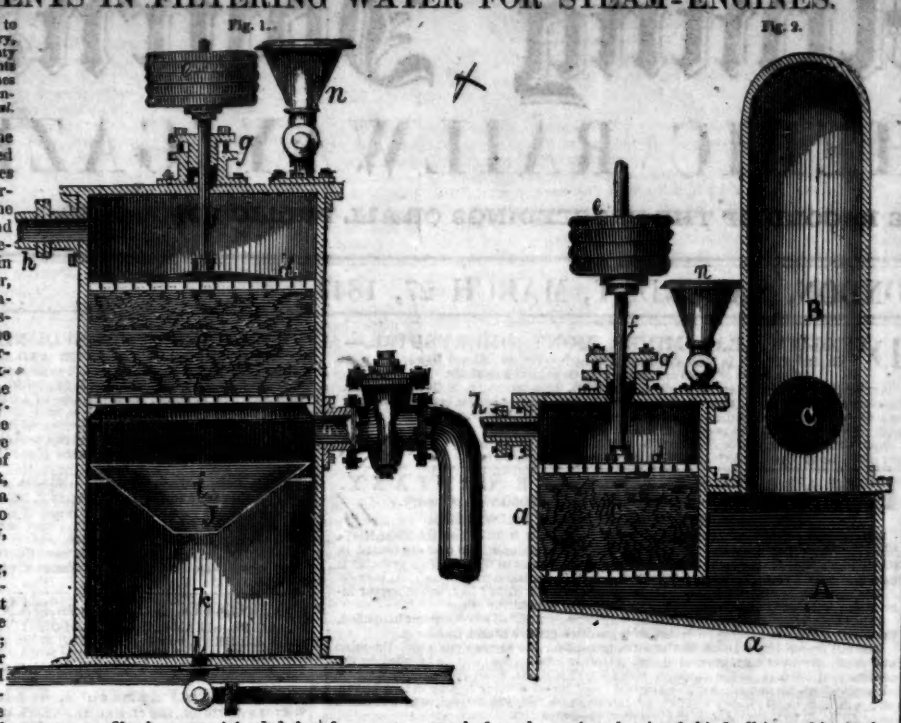


Fig. 2.

Fig. 2 represents a side elevation of the filtering apparatus attached to the hot-well of a steam-engine. A, is the hot-well; B, the exhaust chamber; C, the condensed steam passage, or supply tube, the smaller letters of reference applying, as in fig. 1, to similar corresponding parts, the action of which is as follows: sponge or other suitable filtering material is placed between two perforated plates, and compressed by reason of certain weights exerting a gravitating influence or pressure upon the sponge, or other suitable filtering materials aforesaid; the water to be filtered is then driven through the compressed sponge, in an upward direction, by the action of force pumps attached to the engines, leaving behind all impurities in the body of the sponge. The application of a double filtering apparatus for purposes aforesaid, consists of two cylinders placed side by side, in connection with each other, having two two-way cocks and pipes leading therefrom, in such a manner, that when it is necessary to clean one or the other out, these cocks are turned in the required direction, shutting off the communication from one, whilst the other is put into operation, as aforesaid. Having thus described the nature of this invention, the patentee wishes it to be understood that he claims, as of his invention—first, the manner of placing the inverted conical diaphragm, and the fixed perforated division, having the egress pipe between, also for having a chamber below for the reception of the mud or sediment, and the manner of carrying the same off by the pipe, *v*, also the manner of placing the sponge or filtering material between the fixed perforated plate or division. Secondly, for the mode of so combining the two filtering cylinders together, and so arranging the ingress and egress pipes, that the water shall pass from one into the other cylinder or apparatus, by the action of two two-way cocks; and thirdly, for the application of single or double cylindrical filterers to the hot-well of a steam-engine, as hereinbefore explained.

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THE LATE DREADFUL COLLIERY EXPLOSION.

The *Daily News* of Tuesday last, makes the following judicious observations on the inquiry into the late awful catastrophe at Oaks Pits Colliery:—

"The inquest at Barnsley, concerning the recent coal-mine explosion near that town, by which 70 lives were sacrificed, has now terminated—the jury having [as we announced in last week's Journal] expressed their opinion that the deaths were accidental, 'but that efficient regulations are not enforced in the district to prevent the use of naked lights in those parts of coal mines where inflammable gas is known to exist; and that they are further of opinion, that the recurrence of accidents involving so large a loss of human life demands the immediate attention of her Majesty's Government, and would justify Parliament in framing such a code of regulations, as would give greater security to persons employed in mining operations.' We are satisfied that no unprejudiced person can doubt this. We are sure that a verdict expressing so distinctly and sensibly the true state of the case will have due weight, both with the public in general, and with her Majesty's Government and the Houses of Parliament.

We wish, however, to recall the simple facts attending this melancholy accident at Barnsley, in order to place this subject in its proper light. There is nothing, indeed, very unusual in the affair; and almost all the evidence adduced might have been copied from the records of the late accident at Oldbury, the previous one at Risca, or that which preceded it at Jarrow. But still we may learn something from the mere repetition of the sad story.

There are in the Oaks Colliery two shafts: one used chiefly for drawing coal, and the other for producing an ascending current of air, and carrying away from the workings the air that has been used. It is quite clear that the air must pass down the drawing shaft before it can get into the under-ground works, through which also it passes before ascending the other, or ventilation shaft. Anything that interferes greatly with the current of air in either shaft must interfere with the ventilation; and yet it is acknowledged, that a 'circular scaffolding, nearly the width of the shaft, was let down into the ventilation shaft, about a month or five weeks before the accident, and was in the shaft at the time of the explosion.' Thus, the freedom of the ventilation was completely checked; but no one seems to have thought this extraordinary or dangerous. There was no person officially called on to interfere; and any interference, not official, would, in all probability, have been thought highly impertinent. It is clear, however, that efficient inspection would render such a state of things as impossible as it would be to have, on a railroad, an embankment or a cutting left knowingly in a dangerous state for an indefinite time.

The workings underground in the Oaks pit were of two kinds, the old and the new; the old workings were known to be in a bad state from foul air, and this was especially the case when the coal was being obtained from these places. The men were told to work with safety-lamps in certain galleries, or 'breaks,' but they appear to have been left entirely to themselves in carrying out these instructions, since the lamps were neither locked nor examined; and the only intimation of the existence of danger appears to have been the placing of a shovel across a passage. It was admitted also, that new men might not be aware of this custom, and no punishment was inflicted when a foolish or obstinate man chose to risk the lives of the hundred who might be in the pit with himself, by going about wherever he pleased with an open light.

Now, we have no intention of declaiming against either the owners, the foreman, or any one of the sufferers. We are convinced that the fault is more in the system than in the individuals. But when we consider for a moment the constant imminent danger—the well-known fact, that in cases of this kind the foul air is likely to come suddenly and rapidly, into those places where the men are working—that the fall of a prop, the accidental approach to a small fault or dislocation of the beds, and a hundred other causes, may create a rush of explosive gas sufficient to endanger the lives of every one underground at the time—we do say that there should be some efficient underground police—something like inspection and superintendence; and some method adopted to ensure the observance of any plan that may be suggested, whether of improved ventilation, or of constant working with the safety-lamp.

There is one point in the evidence on this inquest which seems at first sight so strange, and is so regularly repeated on the occasion of every accident, that we cannot help alluding to it. It is in the evidence of Mr. E. Wrigley, a colliery viewer, who 'had been in the pit in January, and the only fault he found with it was, that *it had too much air*.' Now, without dwelling on the fact that the ventilation had been for more than a month impeded by a scaffold in the upcast shaft, we would just inform our non-professional readers that this apparent excess of air, supposing it to exist, does not in fact very much affect the question at issue; for if there is enough foul air given off to render the pit fiery, and therefore dangerous, the danger is by no means diminished by coursing the air rapidly along the main passages. If there is danger, it will then be only more widely spread; for, according to almost invariable custom, there are, even under the most dangerous circumstances, abundance of open lights about, and the air becomes explosive without much reference to the general ventilation. We believe that a number of moderate but short currents, well distributed, are really far more efficacious than the rapid blast that almost blows out a candle. At any rate, this much is certain, that in working coal that gives off a large quantity of gas, there is no real safety if open lights are used at all.

The absolute necessity of determining in each pit what would render those particular workings safest, and insisting on such things being done, must, however, act as a check upon positive general legislation with regard to method, and ought rather to suggest the appointment of efficient inspectors, whose judgment could be relied on, and who would not insist on vexatious interference. Each district has its own method, and that method almost always has reference to some local peculiarities, which have suggested it.

Whatever the present result may be, we feel satisfied that, before long, the strongly-expressed opinion of the mining districts will render some measure of legislation imperative."

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	*Address.*	*Day.*	*Hour.*
Royal Botanic	Inner Circle, Regent's-park	Saturday	3½ P.M.
Medical	Bolt-court, Fleet-street	Monday	8 P.M.
Chemical	Society of Arts, Adelphi	Monday	8 P.M.
Civil Engineers	25, Great George-street	Tuesday	8 P.M.
Zoological	11, Hanover-square	Tuesday	3 P.M.

INSTITUTION OF CIVIL ENGINEERS.

MARCH 23.—Sir JOHN RENNIE (President) in the chair.

The paper read was by Mr. J. Richardson, M. Inst. C.E., F.G.S., &c., "On the Ventilation of Mines." After stating the necessity for establishing a more complete system of ventilation as a measure of common humanity, and the advantageous results in a commercial view which would arise from enabling the miners to develope their physical force with more benefit to themselves, and allow them to do a greater amount of task-work for the same sum; the paper proceeded to describe the system of ventilation at present pursued at Newcastle and its vicinity, as being that of the district where the greatest attention had from necessity been paid to the subject, which is one of undoubted difficulty: it is at the same time one of almost national importance—for as a mercantile nation much of our greatness depends upon our manufactures; and unless the fuel for producing power is obtained at a reasonable price, the results of all our attention and skill will not enable us to compete with foreign labour; without good ventilation our mines cannot be worked, or, at least, must be so imperfectly conducted as to render fuel scarce and expensive. Much attention has been paid by very able men to this subject, and still the necessity becomes more apparent for some great alterations, to avoid the gradual but certain waste of human strength, from long sojourn in mephitic air, or the frightful loss of life from the explosions of the gases exuding from the coal in the progress of getting.

The nature of these gases, which are the carburetted-hydrogen, the olefiant, the sulphuretted hydrogen, and the carbonic acid gas, were severally treated of. The three first are known as fire-damp, being explosive when mixed with certain proportions of common air; the latter is known as choke-damp, or after-damp; it is produced in large quantities by explosions, and completes the fatal work left undone by the explosive gases. It also exists in old workings and ill-ventilated mines.

These gases require a large supply of pure air to dilate and render them innocuous, and a still larger quantity is necessary to support the respiration of the number of men and animals employed in a mine. The entrance, therefore, of the fresh air, and the exit of the foul air, should be free and capacious. This is generally effected by having two pits, one termed the "downcast," and the other the "upcast" shaft, sunk to the bed of coal. Down the former of these the fresh air sinks, and after travelling along through the various galleries, as it is guided by doors and other means in various directions, it returns to the bottom of the latter (the up-cast) shaft, where a furnace is established, in which it is rarefied, and rendered so much lighter, that it readily ascends the up-cast shaft—thus causing throughout the mine a current of air which, when all succeeds according to the design of the mining engineer, affords ample ventilation in all parts. Sometimes, however, an unusual escape of deleterious gas takes place by the carelessness of the boys having charge of the traps and partition doors in the air-ways; some of them are left open or improperly kept shut, and the current of air is diverted or stopped; or one of the workmen, from heedlessness or cupidity in desiring to have more light for his work, opens the safety lamp, the inflammable gas is ignited, and an explosion ensues. From one or more of these causes arise all the accidents that have occurred, and it appears that hitherto no precautionary measures have sufficed to prevent their occurrence.

The paper dwelt at some length on the present methods of ventilation, and the objections to them, illustrating the positions by quotations from the best authorities on the subject; all of which went to show that in spite of all the care and attention that had been given to the question, all the skill of the engineers, and the introduction of the safety lamp in 1816, the loss of life had been greater since that period than it was in a corresponding period previous to its introduction. This must not be charged entirely to the lamp; for, although it may have rendered men bolder, and induced them to trust too much to the lamp, in venturing into those parts of the mines which formerly would have been abandoned, still it must be borne in mind that, as the coal was got at greater depths and distances from the shafts, the ventilation became more difficult; and from the greater number of persons employed in one mine, if an accident did occur, the loss of life was greater in proportion.

The merits of the safety lamps, produced almost simultaneously by Sir H. Davy, Mr. G. Stephenson, and Dr. Reid Clanny, were canvassed, and the greater amount of merit, as well as the credit of the first production of it, appeared from evidence to be due to Mr. Stephenson. The author then entered into calculations, showing that the dimensions of the "up-cast" shaft should in all cases be increased in proportion to the augmented volume of the air from the expansion at the higher temperature at which it leaves the mine, after traversing all the passages; and if this were attended to, not only would the general ventilation be better, but in the event of an accident occurring, by an explosion, or the derangement of some of the air passages, from falls of the roof, &c., an extra power would be applied, which would, at any rate, prevent a portion of the frightful loss of life which now occurs. It was evident from the whole statement that although in certain cases of fiery mines, some improvements might be advantageously introduced, yet that in the majority of the good mines the present methods sufficed to maintain them in a healthy and safe state; and that in almost all cases it was the culpable neglect of, and not the want of means of prevention, that caused the destruction of health, life, and property, in the mining operations of the kingdom. This opinion appeared to be participated in by all the speakers, in the very interesting discussion which ensued, and in which the interference of Government by legislative enactment, with respect to methods of ventilation, was severely deprecated. It had become fashionable now, whenever a difficulty occurred, to recommend "legislative enactment" as a universal panacea, as if a Committee of the House or a body of commissioners, none of whom probably possessed any practical knowledge of the subject, could at once fall by inspiration upon the methods of prevention or cure, which had so long eluded the careful investigation of scientific and practical men, whose time, talents, and fortunes, had been all devoted to the subject, from that great incentive to exertion, "self-interest." When the examples of foreign countries was quoted, it should be at the same time shown in how backward a state they were in engineering and mining, in commerce, and in fact in everything with which the Government interfered, as compared to the high state of perfection arrived at in this country. What was their position with respect to common roads, canals, railways, the extent of their mines, and the general amount of manufactures, as compared to those of England? and yet they had the "advantages" of the "wisdom" and the "fostering protection of Government;" whilst in England, there was nothing, fortunately, but competition to urge manufacturers and miners to bring their produce to market, of the best quality, and at the cheapest possible rate. In short, it was shown that to do any good Government must leave the matter alone.

The discussion upon this subject will be renewed at the next meeting, on Tuesday, March 30, when a paper will be read, "On the defects in the principles of construction of fire-proof buildings," by Mr. W. Fairbairn, M. Inst. C.E.

ON THE APPLICABILITY OF IRON TO SHIPBUILDING.

A beautiful iron-ship, of peculiar build, was launched at Liverpool, on Saturday last, destined to run from island to island in the West Indies—she is named the *Guadalquivir*, and is 220 ft. long, 25 ft. between paddle-boxes, 12 ft. deep, and 600 tons burthen; she has Vernon's patent iron-deck bearing, and side frames in the engine room; it is expected that she will not, with her engines, fuel, &c., on board, draw more than 6 ft.; her cabins will be of magnificent construction, similar to the American river boats. There will be three tiers above the main-deck, the wood-work of which is now being made in New York, and the furniture for them, of the best kind, in London. It is remarkable in the annals of skill and industry, in the art of iron shipbuilding, that the keel-plate was laid only in October last, and that vessel of so large a tonnage was, on the 19th inst., although there was snow for a month, finished for launching, and fully rigged as a schooner while on the stocks. The *Guadalquivir* will be propelled by engines of 220-horse power, with common flue boilers; the paddle-wheel is 27 ft. in diameter; and the engines, on the side-lever principle, are in course of completion by Messrs. Fawcett, Preston, and Co., of Liverpool, and great speed is expected.

The launch was celebrated by an entertainment, at which the usual loyal and other toasts were drank—to that of "the builders, Messrs. Vernon and Co.," Mr. Vernon, son., responded, observing that, with regard to iron vessels, he would make a few remarks. In the first place, they would all recollect that, since the adoption of iron as a material for building vessels, much had been done on the subject, and many important objections were raised at the commencement. Those objections had, however, vanished into nothing. One objection was, that iron was a material subject to corrosion—that its capabilities would be destroyed. Now, he asked, what corrosion had done?—that objection was never named—many who once spoke about it were silent. Another objection was, that vessels built of iron would not be safe in taking the ground, or coming on a rock. What did wooden vessels do when they went upon rocks?—why, they went to pieces. (Laughter.) They did not build vessels to go upon rocks, but to keep clear of rocks; and when such was the state of the weather that vessels were driven on rocks, they were likely to be broken up. He felt sure, however, that in cases where steamers had met with such accidents, they had been got off more frequently in safety than timber-built vessels—therefore, such an objection amounted to nothing. He might adduce, as an instance, the *Great Britain*, and many other vessels under similar circumstances, to substantiate his position. The first objections were imaginary—they had all vanished away—and the adoption of iron for shipbuilding was now being recognised. There were, however, immense difficulties which still remained unsurmounted, before the material of iron could be brought more extensively into operation. He considered the question as a natural one, in consequence of the bearing which it had as to our relation with other countries, and that whatever objection there was to the use of iron-ships should be overcome. First, as to the prevention of fouling in some waters—and that objection did not apply to all waters, for when a vessel was employed conveying goods up the Baltic it did not foul; but in the West Indies, the East Indies, and all tropical climates, the fouling of the vessel was a mighty objection. For his own part, he thought there were plans about to be brought into operation, by which, in a short time, that difficulty would be fully met and overcome. There was another point to which he would refer, and that was as to the maturity of the screw: a great deal depended on it, especially with reference to sailing-vessels; but there were merits in the screw not yet brought out—which would come out bye-and-by. The screw was not sufficiently matured, and its construction and plan in connection with the engine were not yet sufficiently understood. The other day, his son was on board the *Sarah Sands*, and had an interview with Capt. Thompson, who appeared to be coming to a right view of the matter, and if he persevered he would be the first man to arrive at the point by which they were to obtain the greatest advantage from the screw. There were some other objections to the use of iron vessels which required notice. Recently, some experiments had

been made by one of the Admiralty, for the purpose of testing the capabilities of iron vessels to resist the action of cannon ball. He had seen the report on that experiment, and the result was, that iron vessels had been condemned for the purposes of war. It was all nonsense as to the result they had arrived at, and he would tell them why. First of all, the vessel on which they tried the experiment was a small thing, in which no one would have ventured scarcely to cross the river, the plates of which she was constructed being not more than one-eighth of an inch in thickness. Was such a vessel fit to try an experiment by the British Government? The experiment amounted to nothing, and the Admiralty ought to have been ashamed of themselves for putting it forward under such circumstances. The trial could not be considered a fair one at all, and had not furnished any proof at all that iron vessels could not be used for the purposes of war. They must bear in mind, that vessels for mercantile purposes were not for war; but his opinion was, that an iron vessel might be made safer and better calculated to resist the impetus of cannon balls, than if constructed of wood. He would have a vessel similar to the one they had seen that day glide into the water, on the sides of which should be introduced a network of iron plates placed on edge, so near together as to prevent the possibility of any cannon ball ever passing through. Such a vessel might be made so as to be invulnerable. Another plan was, to construct one iron vessel within another, leaving an intermediate space, which should be filled up with some invulnerable material, to stop the progress of cannon balls.

LITERARY NOTICES.

The Ancient World; or, Picturesque Sketches of the Creation. By D. T. ANSTED, M.A., F.R.S., F.G.S., Professor of Geology in King's College, London, &c. London: John Van Voorst, Paternoster-row.

In this most elegant work the author has applied his high geological attainments to laying before his readers the ancient history of the earth, its vegetation and inhabitants, in a form which, while it is fully elaborate to the importance of the subject, is so simple and explanatory in its details, that the most uninitiated in this beautiful and highly-interesting science, will understand, as he proceeds, the nature of the generally-received opinion of the state of the period antecedent to the introduction of life, the deposit of nonfossiliferous rocks, the introduction and gradual change in vegetable and animal life, up to the tertiary period, when the higher orders of animals existed, and the considerations arising out of the results of geological investigation. The reader is spared, as far as possible, the mere technicalities of the science, while being informed of the views deduced from the study of them. In a beautiful frontispiece is given an idea of what may probably have been the aspect of the vegetation of England during the coal period; in the centre is a tree fern, a common and characteristic plant—on the left is an ideal restoration of a lepidodendron—on the right, in the distance, are the tops of araucarias, coniferous trees, nearly allied to which have been found in the coal measures; and the remaining trees and plants are inhabitants of Norfolk Island, or Eastern Australia, but which seem to have had representatives in ancient times.

In his introduction, the author observes—"Long, long ago, many ages before the creation of man, this world, on which we dwell, existed as the habitation of living beings, different from those now tenanting its surface, or inhabiting the ocean, which covers so large a portion of it—but yet sufficiently resembling them, to admit of that degree of comparison, by which the general form, the proportions, the peculiarities of structure, and even, in some cases, the habits of these ancient dwellers upon earth, may be determined." In speaking of fossils having been called the "medals of creation," he adds—"But fossils are much more than mere indications of the history of the time to which they refer—they themselves express the very language of Nature—they bear actual, direct, and unquestionable testimony to the course of Nature—and when properly considered and investigated, with a view to those analogies, which the study of existing Nature teaches, they exhibit distinct proof of a long series of successive creations, characterising different epochs in the earth's progress. They are also found to be, in a very distinct and important sense, characteristic of formations—by which it is meant, that certain groups of species are chiefly met with in rocks of one age—the various species of each group being more rarely found in those of the preceding and succeeding ones, but never met with again in abundance; and this is not the less true, because a few of them, escaping, it would seem, as if by some unusual powers of endurance, and stragglers from the general herd, have continued to exist for a long time, and through many subsequent periods." These extracts will give an idea of the style of the work, and we shall, in future Numbers, give copious extracts, with illustrations. The volume is most complete, and exquisite in the binding and general getting up, illustrated with nearly 150 beautiful wood-cuts, and is a most valuable addition to our geological publications.

Observations on the Navigation Laws: suggesting their Immediate Repeal, and unqualified Free-Trade. By C. H. GREENHOW, Esq. London: Effingham Wilson, Royal Exchange.

This is a very clever pamphlet, written by one who is well acquainted with the all-important subject he tackles; and every one who takes an interest in the commercial prosperity of Great Britain, and the repeal of those obnoxious restrictions, under which she has laboured for so many centuries, will no doubt be gratified by its perusal—being *multum in parvo*. The author very justly remarks—"We read of the ages of iron, of brass, of silver, and of gold—the 19th century ushers in the age of intelligence—the age when man awakens to a keen perception of his powers of thought and capabilities of action—the age in which the legends of olden times, the reveries of the ancients, are exceeded by the sober, wonder-working, realities of life—the age in which centuries of progressive advance are outstripped, and impossibilities are overcome—the age in which the earth and its elements are subdued, and the way is preparing for the permanent unity and concord of all nations. It is, therefore, the duty of a wise Government to encourage a free and unrestricted interchange of commodities with other nations; and to insure, by laying on the smallest possible imposts to meet the exigencies of the State, the *general spread* of those articles required by its people. Restrictions on trade, and excessive taxation, are respectively inimical to a nation's welfare; for the State exists not by the riches or enjoyment of the few, but by the labours and wants of the multitude; to take away, therefore, or withhold the superfluities of another nation, or by heavy duties to limit its extent, is, in the highest degree, suicidal—is an injury to the would-be consumer, to the revenue, to the shipping, and to the country from whence the supply is derived. Need we illustrate this? The Americans have had a superfluity of grain; millions in this country are even now unable to furnish themselves with the 'staff of life,' in consequence of its high price. From the want of this food, the physical powers of men decay; and restrictive laws and class legislation produce want of employment, idleness, crime, sickness, and starvation. Was the quartern loaf at 5d., who disputes that its present consumption would be doubled? As it is with bread, so it is with all things else, constituting our staple commodities. Our manufactural and industrial products are as valuable in the eyes of the Americans, as their corn is to us; and a free and unrestricted exchange, would prove a blessing to both countries, furnishing additional employment for capital and labour, and leading to new sources of wealth and capabilities of labour. Commerce *must* be free; and Great Britain must set the example, in removing every remaining restriction upon her ships, her colonies, and her commerce." The writer makes a few pertinent and well-timed remarks on the operation of our absolute *protecting* Navigation Laws, as most injurious to the commerce of this country, and her maritime aggrandisement, which has nothing to fear from foreign competition were they repealed, either as regards ships or sailors.

LOADSTONE OF LAKE SUPERIOR.—The editor of the *Detroit Advertiser* has received a letter from J. Houghton, jun., stating that, among the many discoveries which have been made in the mineral regions of Lake Superior, during the past season, there has been one which is of great interest to the man of science. It is the discovery of native loadstone, a variety of the pleisto-magnetic iron ore. It was discovered by Bele Hubbard, Esq., who is carrying on a geological, in connection with a United States linear, survey, and who has collected the only specimens ever obtained in that region. He was led to the discovery by noticing the great fluctuations in the bearing of the magnetic needle. Its locality is Middle Island, which is two miles north-westerly of Presque Isle. The island is granite, traversed by dykes of greenstone trap, in two of which (having a course nearly north and south) the loadstone was found. It is of a crystalline, or granular, structure, and might, by slight examination, be mistaken for a variety of granite. It exhibits polarity—the opposite sides of the same specimen attracting and repelling the north end of the needle; it also attracts iron filings. The loadstone of different portions of these dykes was observed to exhibit different powers of magnetism. Although this portion of the mineral region had been thoroughly examined by competent geologists, during a period of several years, yet the existence of native loadstone remained unknown; and this circumstance is a farther proof of the imperfect knowledge possessed of the various minerals of that interesting country, and that the richest discoveries and developments may yet remain to be made.

IRON-WORKS AT NEW ORLEANS.—The Belleville Iron-Works is the name given to extensive buildings in course of construction opposite New Orleans. These works are being erected by a company, with ample capital, and the buildings will cover a space of 300 ft. front by 500 ft. deep. They will, it is stated, give employment to 300 workmen.—*Miners' Journal.*

A CURE OF A DREADFUL CASE OF ERYSIPELAS BY HOLLOWAY'S PILLS AND OINTMENT.—Mrs. Gibbons, of Tivoli-place, Cheltenham, was, for two years, so dreadfully afflicted with erysipelas, that she became (however extraordinary it may appear) both blind and deaf, from the severity of the disease. During the time she was attended by several of the most eminent medical men in Cheltenham, but without receiving any benefit whatever; and, as a last resource, she tried Holloway's pills and ointment, which, in two months, perfectly cured the dreadful complaint, and restored her to health. This remarkable cure can be authenticated in every particular at the booksellers', No. 10, Arcade, High-street, Cheltenham.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

Law Intelligence.

SPECULATION IN IRON.

OXFORD CIRCUIT, STAFFORD—MARCH 22.

Mr. Serjeant Talfourd, Mr. Serjeant Allen, and Mr. Kettle, appeared for the plaintiff; Mr. Whately and Mr. Keating for the defendant.

The plaintiff was an ironmaster at Wednesbury, in this county; the defendant, a brewer in London. In the autumn of 1845, several gentlemen of a speculative turn of mind entered into contracts for the purchase of large quantities of railway bars, in the expectation that, in consequence of the immense number of lines likely to be laid down in the next year, dabbling in rails would prove as profitable as dabbling in shares was then supposed to be. The defendant entered into one of these contracts, and the present action was the result. The declaration stated, that on the 20th of October, 1842, an agreement was made between the plaintiff and the defendant, whereby the plaintiff agreed to sell to the defendant 2000 tons of merchantable railway bars, at 11*l.* 5*s.* per ton, net cash on delivery, and the section of the said bars was to be any the defendant might require, and such section was to be given by the defendant to the plaintiff on or before the 1st of March, 1846, and the delivery of the bars and the payment for them was to be made in certain monthly proportions, commencing on the 27th of March, 1846; and 800*l.*, part of the price, were to be paid on or before the 20th of October, 1845; but that the defendant, disregarding his promise, did not pay the 800*l.*, or give to the plaintiff, before the 1st of March, 1846, a section of the said bars, whereby the plaintiff was prevented from performing his contract, &c.

The defendant pleaded the general issue—payment of the 800*l.*, and delivery of a "section of the said bars" before the 1st of March, 1846.

The payment of the 800*l.* was now admitted, and the only questions at issue arose on the other two pleas.

The contract, which was in writing, specified 2000 tons of merchantable railway bars; "and the section, which is to be any the buyers may require," was to be given on or before the 1st of March, 1846. Soon after the contract was made, the price of iron fell considerably, and the defendant desired a postponement of the time for completing the contract. The plaintiff would not consent; and a specification and a section were sent by the defendant—the former requiring the rails to be made of "the best malleable iron," to be punched with a certain number of holes, and to be subject to inspection by persons on behalf of the defendant, before leaving the plaintiff's works, and to be rejected, if disapproved, by them; the sections being of a form that, as the plaintiff alleged, would give very great and unusual trouble in the manufacture of the rails. The section was on paper, not in metal—and the principal questions now were, was the plaintiff bound under the contract to comply with the specification?—and was the delivery of a section on paper a compliance with the condition as to a delivery of a section? On these questions a number of ironmasters were examined by each side, and they certainly differed as much as doctors are proverbially said to do—some saying, that a section meant a model in metal—others, merely a drawing on paper; some that the best malleable iron meant the quality of iron known in Staffordshire as No. 3—others, merely the best iron that was commonly used in the manufacture of merchantable rails; some that the plaintiff was bound to punch the rails, others that he was not; some that it was impossible for the plaintiff to comply with the specification—others that it was the easiest thing in the world; some that the specification was nonsense—others that it was a very sensible one; some that it was unreasonable to have the rails subject to the inspection of persons appointed by the defendant, and at the plaintiff's works—others that it was far more reasonable, and even better, for the plaintiff, to have them inspected there than anywhere else; and, finally, some that the plaintiff was clearly right, and others that he was clearly wrong. There was no doubt that the plaintiff would have made between 2000*l.* and 3000*l.* by the contract, if it had been carried out. The verdict was for the plaintiff.—Damages, 600*l.*

ANNOTATIONS ON IRON—LIGHTNING CONDUCTORS.

The disposition of iron externally—at least, in high and exposed situations—should be judiciously considered, in reference to its attraction for lightning; frequent instances have occurred of explosions taking place in the summits of spires, from the finial and upper courses being bound together by an iron bolt, and there being no superior conductor to avert their destruction. Where there is no conductor, but a series of conducting bodies, with intervals of masonry between, much mischief may be expected from explosions at the interruptions. Iron rods have been much used for lightning-conductors, and are still so employed; but they are fast giving place to copper tubing, which has a great superiority for two reasons—firstly, copper has five times the conducting power of iron; and, secondly, tubing presents nearly double the surface of a solid rod for the passage of the fluid—perforations being made at the summit, and at intervals downwards, to admit of its descent inside as well as out. Copper is also better than iron, from its less destructibility by rust or fusion: wire ropes have long been used in some parts of Germany in preference to rods—no doubt from the greater quantity of surface they afford. When holdfasts of iron are employed, they should be of cast-iron, as being the most durable, and be painted, and wrapped in old silk dipped in melted tallow, which, being non-conductors, serve the purpose of insulating the rod; or the neck of a bottle introduced, would more effectually serve the same purpose; but although iron holdfasts are generally used, their liability to expand and be operated upon by the changes of the weather, are disadvantages which lead to a preference being given to several other substances. A block of glass, or of Valentia slate, with a projecting eye, and let into the masonry with cement, being both of them non-conductors, are respectively recommended. Eyes of oak driven into the joints are also used.

The manner in which the wires of the electric telegraph are insulated in their points of support, as lately executed about York, is worthy of note, as bearing on this subject. Small castings of the same material as stone spirit bottles, barrel-shaped, open through from end to end, and with a small semi-circular channelling round the middle outside, are placed horizontally against the side of the posts, and there secured with metal staples, girding them by means of the channelling aforesaid. In these hollow barrel-like castings the conductor rests, loose, and perfectly insular. Provision should be made to allow of the expansion and contraction of the conductor, which, where tubing is used, is advantageously accomplished by soldering, or otherwise securing, a piece of smaller tube an inch down in the lower length, and letting it stand, say 5 in., in the upper—so that the latter can rise or fall on it, according to the influence of the weather; this should be done over the holdfasts, in which the conductor should rest, by means of a band or ring of larger tubing soldered round it outside.

It is stated, that a lightning-conductor protects an area around it, whose radius is double the height from the ground to the point; it is also agreed, that not only do conductors protect from lightning the buildings on which they are fixed, but by silently and imperceptibly drawing off the electricity from the clouds, they mitigate the violence of thunder-storms, and thus extend the benefit of their influence to the neighbourhood. The conductor should be attached to the highest part of a building, and project a few feet above it; it should be carried down in as straight a line as possible, without any interruption to its continuity, and terminate in a furcated form below the foundation, in a deep trough, or depression in one of the drains—where it will, at all seasons, be in contact with water, or in a deep pit in the subsoil, and surrounded with the graphite from gas resorts; which, besides being indestructible, is an active conductor, and, therefore, well calculated to facilitate the dispersion of the fluid into the earth. Where there are several similar pinnacles on a tower, a conductor on one, and a globular glass repeller on each of the others, will suffice. Where possible, the conductor should be kept far away from other metallic bodies, otherwise lateral discharges are likely to take place—since electric fluid, besides seeking a direct, avails itself also of a wide, path. Where the vicinage of other conducting bodies is unavoidable, the possible passage of the fluid should be converted into a certainty by a metallic communication, and the other conducting train made complete; in any case, it is advisable to convert, by strips of metal, the metallic bodies and surfaces about a building—such as copper or lead coverings, lead or iron rain-water pipes, &c.—into continuous conductors, terminating in the ground. The top of the conductor may consist of a solid piece, say 2 ft. long, tapering towards the ends from a thickness of 1½ in. in the middle, its upper end gilt or tipped and pointed with platinum, to preserve it from corrosion, the lower end screwed into the mouth of the tubing. The conducting power of iron, in relation to other metals, is as follows:—lead, 1; tin, 2; iron, 24; zinc, 4; and copper, 12.—*Irish Railway Gazette.*

CANAL THROUGH THE ISTHMUS OF SUEZ.—This long talked of gigantic work is at length likely to be speedily accomplished. The several Governments of England, France, and Austria, jointly, by treaty with Sublime Porte, under which Egypt is to complete the portion from the Nile to the Desert; France to establish the route across the Desert; England will put in complete repair the port of Suez, and finish all other necessary works; and Austria, and the East India Company, are to supply the requisite number of steam vessels. M. Talabot on the part of the French, M. R. Stephenson for England, and M. Negrelli, for Austria, are now in Paris, engaged in carrying out the details.

IMPORTANT EXPERIMENTS WITH THE GUN-COTTON.

A series of trial experiments, to test the strength of gun-cotton in blasting, as compared with the known powers of gunpowder, took place on Wednesday, in the Standedge tunnel on the Huddersfield and Manchester Railway. A correspondent thus describes the proceedings, and their results. The place selected for the experiments is in the midst of the great Yorkshire chain of hills, between Huddersfield and Manchester, where a tunnel is now constructing through huge masses of millstone grit, and which, when completed, will be the longest tunnel in England. The rocks, which are situate at a depth of 145 yards below the surface of the mountain, consist entirely of close grained quartz—of which some idea may be formed by the fact, that in 110 yards of the tunnel now completed, not one fissure or joint is perceptible. Holes were drilled of 2 in., 1½ in., and 1¼ in. in diameter in the millstone grit, and the charges of gun-cotton varied from 1-6th to 1-3d of the weight of powder ordinarily made use of in blasting. Cartridges containing the gun-cotton were dropped into the holes, with the patent fuse attached—and the quantities varied from 10 ozs. in the larger, to 6 ozs. in the smaller tubes; the quantity of gunpowder employed for similar blast-drills, varying from 1 to 8 lbs. The shots in the tunnel were 12 in number, 10 being charged with gun-cotton, and No. 4 and 11 with gunpowder. The shots numbered 2 and 7 in the south heading, and 12 in the north heading, were declared by Mr. Nicholson, the contractor, previous to their being fired, to be those on which the test of the strength of gun-cotton, compared with that of gunpowder, would be most certain, both as to charges and position. No. 2 was charged with 10 ozs. of gun-cotton, and did wonderful execution, exceeding in every thing the expectations of both the engineers and miners. No. 7 was charged with 1¼ oz. of gun-cotton, and performed the same work as 6 ozs. of gunpowder. The crowning experiments were No. 11 and 12 in the north heading. No. 12 was charged with 16 ozs. of gun-cotton against 3 lbs. 4 ozs. of gunpowder in No. 11, the shots exceeding anything the engineers or miners had before tested. The gun-cotton exploded first, and threw against the side of the heading, and broke into nine pieces, 220 cubic feet of rock, or about 15 tons weight. This shot, from its connection with No. 11, was supposed to have assisted it materially. No. 11 removed to the distance of about one yard 224 ft. of rock, or about 16½ tons weight, but was broken into six pieces only: thus showing the strength of the one over the other. The following properties were established in these experiments:—That the gun-cotton may be considered of three or four times the strength of gunpowder; that it is entirely free from smoke—a qualification of great importance in mining operations, as the miners can recommence work immediately after the blasts have been fired, which is not the case with gunpowder; that, in keeping the cotton on the works, and its being handled by the men, there is not so much risk from explosion, or loss from waste, as with gunpowder; that it ignites with more certainty than gunpowder; and, from the decreased size of the charge, the depth of the drill-hole may be diminished, and the power more concentrated; it also possesses all the qualities of the best gunpowder, and may be kept under water instead of in a magazine—it does not heat by keeping, and will explode at not less than 350.

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY
26, *CORNHILL, LONDON.*
Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates. 50

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

GAS—THE NATIONAL ECONOMIC GAS BURNER.—A SHADOWLESS LIGHT, WITHOUT SMOKE, AT A SAVING OF UPWARDS OF THIRTY PER CENT.,

And no alterations of fittings required in its adoption; its cleanliness and purity essentially adapts it for

DRAPERS, JEWELLERS, SILVERSMITHS, AND OTHERS; ALSO, PRIVATE HOUSES AND PUBLIC BUILDINGS. 51

REGISTERED ACCORDING TO ACT OF PARLIAMENT.

For perfect Combustion, Brilliancy of Effect, Intensity, Power, and Economy of Light, this NEW BURNER is certain to SUPERSEDE every other BURNER in present use.

The production and supply of artificial light unquestionably hold a distinguished rank among the most important arts of life. The inflammable substances usually employed in furnishing us with such light—as oil, tallow, and gas—however excellent in their natural qualities, require the aid of mechanism to render the flame produced perfectly luminous. When all circumstances are favourable to complete combustion, the flame is perfect; if this be not the case, part of the combustible body passes through the luminous flame unburnt, and exhibits the appearance of smoke—thereby indicating imperfect combustion. To prevent this, a combination of chemical knowledge with mechanical skill is necessary.

To demonstrate the superior advantages of this Burner over the Argand and all others, it is necessary to explain in what respects they are chiefly deficient.

In consequence of the Argand Burner being a uniform cylinder, only the external particles of the column of air which ascend towards the place of combustion will actually combine with the ignited gas; it is evident, therefore, that myriads of globules, or those imperceptible atoms of carbon or smoke, which constitute the centre of this column, are carried, with a velocity peculiar to a cylindrical body of air, beyond the vicinity of the combustion, thereby escaping without being appropriated. It was established by Sir H. Davy, while engaged in the invention of the Miner's Safety Lamp, that an unrestricted supply of atmospheric air, though it increased the heat, materially diminished the light yielded by coal gas. In all gas burners the air is admitted without sufficient limitation and regulation, both to the inner and outer surface of the flame.

In the National Economic Burner these great defects are obviated by the following adjustments:—A solid conical button is inserted into the inner air channel, at a certain height from the top of the burner, which arrests and restricts the supply of air, and at the same time causes it to be diffused equally and regularly over the inner surface of the flame; and the outer current is adjusted by means of a conical glass chimney. By this combination the flame is placed between two streams of atmospheric air, nicely regulated to a proper amount, and distributed in the direction most favourable to complete combustion. Artificial light is thus produced, in greater quantities, and of a better quality, than by any means heretofore known, and at a saving of from 30 to 40 per cent.

In short, the merits of this invention, the result of protracted study and perseverance, and great expense, are to be found in the production of a burner which gives no shadow—consequently, rendering profitably available as much of the light as is possible. The combustion being perfect, there is no deposit of soot—therefore, no filthy black ceilings, and no smell, and, in proof of the extraordinary pureness of the light, it may be mentioned, that shades and tints of colours may be distinguished as perfectly as by day—an effect hitherto in vain desired.

The BURNER may be SEEN, and TESTED, from Eleven till Four o'clock, at the office of 12, Leather-lane, Holborn, London. PAUL & CO., Gas Engineers.

Copy of a Letter from "COLONEL HAWKER" (the well-known author on "GUNS AND SHOOTING")

Longparish House, near Whitchurch, Hants, Oct. 21, 1846.

SIR,—I cannot resist informing you of the extraordinary effect that I have experienced by taking only a few of your LOZENGES. I had a cough, for several weeks, that defied all that had been prescribed for me; and yet I got completely rid of it by taking about half a small box of your Lozenges, which I find are the only ones that relieve the cough without deranging the stomach or digestive organs.—I am, Sir, your humble servant,

To Mr. Keating, &c., 79, St. Paul's Churchyard. P. HAWKER.

KEATING'S COUGH LOZENGES are PATRONISED also by his Majesty the King of Prussia, his Majesty the King of Hanover, and most of the Nobility and Clergy of the United Kingdom, and are especially recommended by the Faculty. 52

RECENT TESTIMONIAL.

DEAR SIR,—Having been, for a considerable time during the winter, afflicted with a violent cough, particularly at lying down in bed, which continued for several hours incessantly, and after trying many medicines without the slightest effect, I was induced to try your Lozenges; and, by taking about half a box of them, in less than 24 hours, the cough entirely left me, and I have been perfectly free from it ever since.

9, Claremont-terrace, Pentonville, I am, dear Sir, yours, very respectfully,
Feb. 17, 1845. JAMES ELLIS,
Mr. KEATING. (Late proprietor of the Chapter Coffee-house, St. Paul's.)

Prepared and sold in boxes, 1s. 1½d., and tins, 2s. 9d., 4s. 6d., and 10s. 6d. each, by T. Keating, chemist, &c., No. 79, St. Paul's Churchyard, London; and retail by all druggists and patent medicine venders in the kingdom.

N.B.—To prevent spurious imitations please to observe that the words "KEATING'S COUGH LOZENGES" are engraven on the Government stamp of each box.

NOTICE.—These Lozenges contain no opium, or any preparation of that drug.

NO BREWING UTENSILS REQUIRED.

PATENT CONCENTRATED MALT AND HOP EXTRACT enables PRIVATE INDIVIDUALS to MAKE FINE HOME-BREWED ALE, 53

WITHOUT EMPLOYING ANY BREWING UTENSILS.—It has only to be dissolved in hot water and fermented.—Sold, in jars, for medicinal and other purposes, at 1s. and 1s. 6d.; and in bottles for brewing 9 to 18 gallons and upwards of ale, at 6s. 6d. and 12s. 6d. each, by the

BRITISH NATIONAL MALT EXTRACT COMPANY,
7, NICHOLAS-LANE, LOMBARD-STREET; Petty, Wood, and Co., 53, Threadneedle-street; Wix and Sons, 23, Leadenhall-street; Batty and Co., 15, Finsbury-pavement; De Castro and Peach, 65, Piccadilly; Hockin and Co., 38, Duke-street, Manchester-square; and oilmen and grocers generally.

Also, just published, and may be had gratis,

NATIONAL BREWING: A GUIDE to the USE of CONCENTRATED MALT AND HOP EXTRACT, for BREWING and WINE MAKING; to which is added, MEDICAL OPINIONS relative to the virtues of malt and hops.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—We have taken the men employed in driving the western end of the 28 fm. level, to sink flat-rod shaft—consequently, the end has been suspended for the last week; there is no change in south cross-cut in this level. In the 18 fm. level end, west of flat-rod shaft, the lode is worth 18*l.* per fm., rather improved; it is standing for 2 fms. behind the end; the south part of this lode, in this level, also looks well, worth about from 25*l.* to 30*l.* per fm. The 12 fm. west end is worth about 18*l.* to 20*l.* per fm.; the lode in back of this level does not look altogether so well; but the stopes in the bottom are rather improved. The lode discovered on cross-cut, south from 18 fm. level, we have driven about 9 ft. on; it is very regular, and I have no doubt but that it is the middle lode (although several fathoms north of its course), driven on in the 24 fm. level, west of engine-shaft, but heaved by a slide between the end suspended in the 24 fm. level, and the cross-cut where we cut it; it is worth about 16*l.* to 18*l.* per fm. at present. I have nothing further to remark in the way of change in our underground operations. We hope to have a cargo of 35 to 40 tons ready for sale next week, although, at the present moment, we are delayed in dressing, by the breaking of a small bevil wheel in the crusher. —THOMAS ANGOVE: March 18.

BEDFORD UNITED.—At Wheal Marquis, in the 80 fm. level, we have driven north about 2 fms.; the lode in the stopes, in the back of this level, is 2½ ft. wide, and worth 35*l.* per fm. The lode in the 70 fm. level east is 2 ft. wide, looking a little better than for some time past, good work. The lode in the 58 fm. level east is 18 in. wide, composed of spar, mundic, with spots of ore in places. At Liscombe, we have commenced rising and driving on the south lode, which is about 3 ft. wide, producing good stones of ore, very kindly. The sumpmen, in the south engine-shaft, have not yet completed the plat; the lode in the adit level east is 2½ ft. wide, producing stones of ore in places.—JAMES PHILLIPS: March 23.

CALLINGTON.—You will be pleased to hear, we have cut the silver-lead lode in the 125 fm. level—the underlie being less from the 112 than we expected; the north side of the cross-cut is 9 in. big, orey throughout, and of a promising character—the other part is hoved 6 ft. to the west, which we have just cut into, and consider, from the little we have seen, that it is a rich course of silver-lead ores; the water is drained from the level above; no lode taken down in either level, at this mine, since last report. At the north mine, in the 100 fm. level, driving north, the lode is improved, worth at this time 5*l.* per fm.; in the south end the lode is intermixed with branches of clay-slate, worth 20*l.* per fm. In the 90 south the lode has not been taken down; in the north end the lode is poor; no change on either of the lodes in this level. In driving east in the 40 fm. level, on Kelly Brea lode, we have met with a cross-course, and have driven in the same 9 ft.; the north end, in this level, still continues in a favourable channel of ground—the lode is poor; the shaft at Kelly Brea is 13 fms. deep, ground favourable for sinking.—*March* 22.——We have now opened a little more on the silver-lead lode, to the south of Vivian's lode, in the 125 fm. level, and calculate on its being worth 25*l.* per fm. The 80 fathom level north also looks better than when the report was sent off. —J. T. PHILLIPS: March 23.

CUBERT SILVER-LEAD.—I have this day examined the underground operations here, and find the 35 fm. level cross-cut to be much the same as noticed in last week's report. The lode in the 25 fm. level east is about 1 ft. wide, composed of soft white sugary spar and lead (good saving work); going west here, the lode is 2 feet wide, promising, but at present unproductive for ore. The lode in the 15 fm. level east is a rich-looking gossan, from 2 to 3 ft. wide, and frequently producing some good work. Henry's shaft is down below the 15 fm. level about 6 fms. Nothing new to report on in the tribute department.—R. ROWE: March 19.

DRAKE WALLS.—Bottom stopes, east of engine-shaft, are much as in my last report; top stopes, east of engine-shaft, very good branches. The 40 fm. level, driving east, under the arch, good branches, ground hard. The 50 fm. level, west of machine-shaft, good branches of tin; the ground more favourable for driving. The stopes in back of 50, east of machine-shaft, large branches of tin and wolfram; ground hard. Stopes in the 40, east of machine-shaft, good saving work. Stopes at footway-shaft not rich, ground easy for stoping. We shall have from 15 to 16 tons of tin by the 6th of April, making two months since our last sampling. The tributers' samples were sent to the smelters yesterday—computed 4 tons. The castings for the new crusher are partly on the mine, and the remainder promised next week.—R. WILLIAMS: March 20.

DEVON AND COURTENAY CONSOLS.—We have commenced to drive the 30 fm. cross-cut at the engine-shaft, and in about four weeks I hope to cut the lode. The ground in the deep adit, on south lode, is more favourable for driving than it has been for some time past; the lode is just the same as last reported. The lode in the shallow adit, on north lode, is 2½ ft. wide, composed of mundic, and spar, with some lead and copper ores. The lode in flat-rod shaft, on north lode, is 4 ft. wide; in the western part of the shaft there is a branch of copper ore 10 in. wide; the remainder of the lode is composed of mundic, spar, lead and copper ores, flookan, and white iron—looking very promising.—JOHN JOB: March 23.

EAST CROWNDALE.—I am sorry to say, we have not as yet got through the bed of spar in our engine-shaft; from appearances last week, I expected we should have better ground before this time, but as yet there is no change. In the level driving south, on the lead lode, we have broken some good saving work the past week; the lode is composed of a beautiful soft prian, gossan containing particles of lead, mundic, flookan, and lead, and is upwards of 5 ft. wide. Our adit level, towards the Rix Hill lodes, is driven 10 fms.; the ground is not so speedy for driving, but I hope in about six weeks time to see the north lode, provided the ground does not change materially for the worse. Our engine and pit-work all in good order.—S. PAUL: March 20.

EAST TAMAR CONSOLS.—At Whitson, the lode in the bottom of the 60 fm. level, which has been opened on 16 fms., is a very promising lode; the lode in the north level is 18 in. wide, worth 8*l.* per fm.—price for driving is 50s. per fm.; the lode in the south level is 20 in. wide, worth 10*l.* per fm.—price for driving is 50s. per fm.; two very promising levels at present. The lode in the 54 fm. level south is still in disordered ground. At Furzehill, the lode in Harrison's shaft is 20 in. wide, saving work. The lode in the 46 fm. level is 2 ft. wide—fluor-spar and silver-lead ore. The lode in the 38 fm. level south is 20 in. wide, work of a good quality; the stamps and crusher is in course of working, and the stamp floors completed—so that our surface cost will not be so heavy as it has been for the last two months. We expect to get ready, by our next sampling, 100 tons rich silver-lead ore.—B. ROBINS: March 23.

ESGAIR-Y-MWYN.—The present pumps drain the mine to a depth of 13 fms. below the adit level. It will be advisable to continue this lift to the bottom of the mine as fast as practicable, as it is reasonable to expect returns from the lower portion of the mine immediately. The lower sinks cannot be looked upon as regular workings, but as mere holes sunk into the ore ground, under the greatest disadvantages—the drainage for a depth of 40 fms. being dependent upon a horse-whim; a very precarious implement in wet weather at such a depth. It is, therefore, reasonable to suppose, that the old men only sunk on the best ore, without regard to the poorer class of ore, or of the size of the lode; the power upon the mine is sufficient for this purpose. With respect to the operations below the adit, I should advise the postponement of their consideration, until the state of the mine is seen, as what can now only be suggested, might then be determined upon with certainty. There is one point to which I deem it prudent to call attention at this stage of proceeding—it is the looking into the old-worked ground, above the adit, on which Mr. Lewis Morris says, there is a great deal of ore left, which can be worked at 60*s.* per ton, which, in his time, it was not safe to break, from the difficulty of securing the hanging wall. In the first place, it will be advisable to build a good dry stone arch, to secure the adit, which can be done for 30*s.* per fm., and then to clear passes in the eastern and western end of the worked ground between it and the whole ground; this will disclose the nature of the ends of the unworked ground, which it is possible may be found to contain sufficient ore to work to profit, or to follow for trial; at any rate, it is always desirable to see the ends of all ground unworked on the lode. The stuff used for filling from the adit to surface is composed of waste, containing ore, slate, sulphur, and iron; and it is highly probable that, by this time, it is so cemented, that it will admit of being opened by levels along the walls of the lode, if the ore can be taken away without much difficulty or cost; and, under any circumstances, it can be worked with wood, to secure it at good profits, if it is such as described by Mr. Morris. The adit level may also be driven east with advantage—it being a trial of much promise. I would also advise the erection of a 25-ft. wheel for crushing, 2 ft. wide; there are rollers, frames, and the other parts of a mill, of good construction, complete on the mine.—MATTHEW FRANCIS: March 22.

GREAT MICHELL CONSOLS.—The engine-shaft is down below the 22 fm. level 9 fms. 5 ft., the lode therein is composed of mundic, fluor-spar, and rich stones of ore.—T. RICHARDS: March 23.

GUNNIS LAKE.—At Chilsworthy, the lode in Bailey's engine-shaft is 3 ft. wide, producing good stones of yellow copper ore. There is no alteration in the 12 fm. level, east or west.—H. RICHARDS: March 23.

HAWKMOOR.—In the 15 fm. level, east of Hitchins's shaft, the lode is 2½ ft wide, producing good stones of tin and copper ore—a kindly lode.—P. RICHARDS.

HERODSCOOMBE.—The lode in the north end of the adit level is 3 ft. wide; good saving work, and opening tribute ground. We are about to remove some surface, for dressing floors.—J. MEDLEN.

HOLMBUSH.—The ground and branches in the diagonal shaft, sinking below the 120 fm. level, are much the same as last reported on. The lode in the 120 fm. level, west of the great cross-course, is 8 in. wide, producing stones of ore, mundic, and spar; the pitch, in the back of this level, still producing a fair quantity of ore; the lode in the 120 fm. level, east of Hitchins's shaft, on the north part, is split in two branches, about 2 ft. apart, with a horse of killas in the middle for that width, each branch is about 6 in. wide, composed of spar, mundic, and spots of ore. The lode in the 110 fm. level, east of Hitchins's shaft, on the south part, is 8 in. wide, composed of spar and stones of rich yellow ore; the lode in the 110 fm. level south is 2 ft. wide, composed of soft spar, prian, and spots of lead—a very promising lode, indeed, at this time. The lode in the rise, above the 100 fm. level, is 20 in. wide, producing stones of lead—opening tribute ground. The lode in the 100 fm. level is 3 ft. wide, composed of spar, prian, and stones of lead; there is likewise a great quantity of mundic in the lode, which indicates we are approaching, an east and west course, perhaps the flapjack lode, for we know of no other in existence between the Holmbush main lode and this. The lode in the 90 fm. level south is 20 in. wide, composed of prian, flookan, and sprigs of lead. We did calculate on having 90 tons of ore at our next sampling, previous to notice having been given of a general fast and holiday, on Wednesday next, the 24th inst., which circumstance will be very much against us I am afraid, that being our principal day of crushing and carrying ore to quarry; however, we will do our best under these circumstances, and endeavour to use extra exertions, before and after that day, on this occasion.—WILLIAM LEAN: March 22.

KIRKCUDBRIGHTSHIRE.—By Capt. Buzzo's request, I beg to hand you a report of our present prospects:—Stewart's shaft is 5 fms. 2 ft. under the 30 fm. level; the lode is 4 ft. 6 in. wide, producing 1 ton of lead per fm.; the lode in the end west, in the 30 fm. level, has greatly improved for lead since last report, worth 10*l.* per fm. for lead; in the end east, in the same level, the lode is 4 ft. wide, with a slight mixture of lead; the stopes in the roof of this level, both east and west, are looking exceedingly well; the stopes, east of the winze, are looking well; also, the lode in the 20 fm. level east; also, the adit end are looking poor. We are getting on well with our dressing, and, if the weather proves favourable, we hope to have another small cargo by the end of this month. Our machinery has been working well, and, indeed, everything has been going on well.—JOHN CURNOW: March 20.

LANIVET CONSOLS.—The lode in the 80 fm. level, east and west of Elizabeth shaft, remains much as last reported. We have holed the winze coming down from the 60 fm. level, west of Elizabeth shaft, which has laid open ground for tribute. In the 30 fm. level, east of Elizabeth shaft, the orey part of the lode is 18 in. wide, good saving work. There is no alteration worth notice in the tribute department since my last report.—H. WILLIAMS.

LOUISA.—Agreeably with your wish, on Monday last, I inspected the Louisa Mine, and am glad to be able to hand you a favourable report of her. Capt. Chynoweth not being present, I was conducted through by one of the miners. I found the surface appearances denoted the lode to be a large one, running nearly east and west, and underlaying south. The ground above it is of a very favourable nature; it is killas, or clay-slate, much decomposed. The engine-shaft is about 20 fms. deep from the surface, from the bottom of which a cross-cut has been driven north, about 10 fms., where it intersected the lode. At the commencement of this cross-cut, from the shaft, the ground was hard, and not of a very favourable character; but as it approached the lode, and for a few fathoms before the latter was cut, a considerable improvement took place—the ground becoming much softer, and of that nature which miners consider favourable to mineral productions, and corresponding with the appearances presented at the surface. The lode in this level has been opened on in two places—namely, east and west of the cross-cut—for about 3 fms. in length; it is very large, varying from 8 to 10 ft. wide, apparently very regular; and I am glad to say, that it presents appearances which will warrant a further prosecution. It is embedded in a beautiful strata of ground, accompanied by flookan, and composed principally of quartz, of a favourable nature, and sometimes producing good stones of yellow copper ore, of good quality; but the lode altogether is poor. Taking, however, the small depth it has been cut in that level, the prospects I consider are of a superior character. The locality in which this mine is situated, offers advantages for mining seldom to be met with. Water-power, sufficient for the full development of the sett, can be obtained. There is a powerful and good wheel already erected, and a sufficiency of water to work her; and, by bringing the stream to flow over the top of the wheel, which I was informed is in contemplation, the pumping-power will be considerably increased. The engine-shaft has been sunk in a proper situation; and the operations, as far as they have gone, with regard to mining principles, have been properly conducted. I would recommend a much stronger force being employed. The shaft ought to be sunk 10 fms. deeper as quick as possible. This will take six miners, besides some others to assist. The 20 fm. level, east and west on the course of the lode, should be driven with equal despatch. Here, I think, six or eight miners more could be advantageously employed. By carrying on the operations in this manner, it is my opinion that the mine can be proved in a short time, and at a trifling expense, compared with new mines in Cornwall generally.—J. HITCHENS: March 17.——According to your wish, I yesterday inspected Wheal Louisa Mine, and find a very flattering change from the 10 fm. level to the 20, as I ever saw. In the 10 fm. level the lode was composed of a hard blue capel, mundic, and a little copper; but in the 20 it is composed of white soft spar, what we sometimes call sugary spar, with soft flookan, quite congenial to copper. I was always of an opinion that, if ever she was put down, she would make a lasting profitable copper mine, and, from the change in the 20 fm. level, my opinion is more confirmed. I should think that no man, that is acquainted with the nature of copper lodes, but would say that the mine is a very promising speculation, worthy a good trial; the lode is from 8 to 10 ft. wide, sprinkled with copper. My advice would be, to sink the engine-shaft another 10 fms., and at the same time drive the 20 fm. level east and west on the course of the lode; but especially east, as there is a cross-course about 10 or 12 fms. east of the present end, and I think you will witness a very encouraging change near this cross-course.—WILLIAM HOOPER: March 17.——I was much pleased yesterday at the appearance of your lode at the Louisa Mine. I think that every candid miner must assuredly recommend it as a speculation worthy the notice of any mining company; and I do not hesitate to affirm, that it is my opinion the lode will still improve in depth, as its appearance is now of a very promising character, composed of a beautiful spar, flookan, and good stones of copper ore.—J. DALE: March 17.

MENDIP HILLS.—Stainsby's shaft is sunk 19 fms. 3 ft. below the 38 fm. level, or 57 fms. 3 ft. from surface; the lode in this shaft is principally composed of quartz and iron, with spots of lead occasionally; it has been gradually diminishing in size for several fathoms past, and is now become very small—consequently, I have suspended operations in this part for the present, and placed the men to open on the back of a lode, about 25 fms. to the west, running parallel with the one we have been working on; should there be sufficient indications, I would propose to drive a cross-cut from the 38 fm. level towards this lode. I have been informed by old miners of this part, that since their remembrance, a great quantity of lead has been broken from the back of this and other lodes to be seen near this place. In the 38 fm. level, driving south of shaft, the lode continues very large, composed chiefly of flookan and soft spar, favourable for driving, present price 40*s.* per fm. In the slag department our operations since my last have been very satisfactory; the trial pits mentioned in my report of 8th inst. are completed; I find the one in the centre of the valley (which is 50 fms. further up than our works) to be 26 ft. deep, which is 5 ft. deeper than the bottom of our trench—I have, therefore, removed the men further down the valley, in order to bring in another stope 5 ft. deeper, which will take the bottom of the slags.—F. C. HARPUR: March 22.

PENTUAN WHEAL MARY.—There is nothing particular to report on at Pentuan Wheal Mary this week. The men are still employed in driving the new adit, but the ground proving rather harder than was first expected, they have not yet completed the distance calculated to cut the lode; this, however, will, I hope, be accomplished in about the early part of next week. You shall then know the result. After that the adit will be driven on the course of it. We shall then be able to see every day what changes take place.—J. HITCHENS.

SOUTH TAMAR UNITED.—The men have cleared and secured Monday's shaft to the plat, which we are now in course of clearing. The engineers are getting on with the engine as expeditiously as possible.—B. ROBINS: March 23.

STRAY PARK AND CAMBORNE VEAN.—In the 60 fm. level, driving west, the lode is 1 ft. wide, yielding 1 ton of ore to a fm., worth 6*l.* per ton. In the rise, above the back of the 70 fm. level, the lode is 18 in. wide, yielding 3 tons of ore to a fm., worth 6*l.* per ton; in the 70 fm. level, driving west, the lode, at the present time, is small, containing only stones of ore. In the 80 fm. level, driving west, the lode is 15 in. wide, yielding 2 tons of ore to a fm., worth 6*l.* per ton. In the 90 fm. level, driving west, the lode is 1 ft. wide, yielding 1 ton of ore to a fm., worth 6*l.* per ton; in the rise, above the back of the 90 fm. level, the lode is 1 ft. wide, yielding 1½ ton of ore to a fm., worth 6*l.* per ton. In the 100 fm. level, driving west, the lode is 4 ft. wide, yielding 6 tons of ore to a fm., worth 6*l.* per ton. In the 110 fm. level, driving west, the lode is 2½ ft. wide, yielding 4 tons of ore to a fm., worth 5*l.* per ton; in the winze, sinking below the 110 fm. level, the lode is 2 ft. wide, yielding 3 tons of ore to a fm., worth 5*l.* per ton. In the 120 fm. level, driving west, the lode is 1 ft. wide, yielding 1 ton of ore to a fm., worth 5*l.* per ton. In the 124 fm. level, driving west, on Stray Park main lode, the lode is small, containing stones of ore. In the 130 fm. level, driving east, the lode is 14 in. wide, yielding 2 tons of ore to a fm., worth 5*l.* per ton. In the 150 fm. level, driving east, the lode is 3 ft. wide, yielding 2 tons of ore to a fm, worth 6*l.* per ton; in the 150 fm. level, driving west, the lode is small, and unproductive; in the 150 fm. level, driving west, on south part, the lode is 2½ ft. wide, yielding 3 tons of ore to a fm., worth 6*l.* per ton; in the 150 fm. level cross-cut, driving south, the ground is favourable, price 6*l.* per fm. In the 180 fm. level, driving east, the lode is split into small veins; we have reason to believe that the main south lode has not yet been seen in the 180 fm. level, and that we shall have to drive the cross-cut further south, to intersect it. The tribute ground is looking very well, and the mine altogether is progressively improving—inasmuch as we are discovering more ore than we are taking away. The sampling, on Wednesday last, which was for eight weeks only, is the best we have ever had, both as regards the quantity and quality of the ore.—RICHARD EUSTICE; ELISHA RALPH: March 22.

SILVER VALLEY.—The ground in the engine-shaft, sinking below the 40 fm. level, still continues favourable. At the silver mine, the stopes, in the back of the 30 fm. level east, are suspended for the present, as we have taken the men to work in the 20 fm. level west; in this end the lode is 2 ft. wide, 6 in. of which is tolerably good saving work, and the lode altogether looks very favourable. We are now sinking from the 10 fm. level, and rising in the back of this level (20), to communicate for ventilation, and advantage in stoping the silvery ground. In the 10 fm. level east, the lode is in disordered ground, and is still divided into branches. At Callington Commons, in the adit, and driving west, the lode is 10 in. wide, chiefly flookan, mundic, and quartz. At Wheal Brothers, in clearing the deep adit level west, we are in from footway shaft 33 fms., and the greater part of the ground in this length is worked away; we have seen a little silver in one of the arches, in the bottom of the level, and shall be able to work a part of this ground as soon as the level is clear.—S. RICHARDS: March 22.

SOUTH WHEAL TRELAWNEY.—Soby's lode, in the adit south, is from 18 in. to 2 ft. wide, composed of white killas, spar, gossan, mundic, and sprigs of lead; the ground in Snell's shaft is just the same as last reported, and water as well down in the shaft 15 fms.—W. JENKIN: March 22.

TRELEIGH CONSOLS.—The 110 cross-cut, at Christoe, is driving in the country; the ground is favourable. In the 100, east of ditto, we have been the last few days cross-cutting south; are still in disordered lode, no mineral, 4 ft. driven; the 100, west of ditto, is suspended. In Garden's shaft, below the 90, the ground is still very hard and wet; in the 90, west of ditto, the lode is about 18 in. wide, rather more promising, with stones of ore. In the 80, west of ditto, the lode is 2 ft. wide, producing stones of ore, not to value; in the 80, east of ditto, the lode is 3½ ft. wide, worth 40*l.* per fm.; the tribute pitch under it is also very good. In the 70, west of ditto, the lode is 2½ ft. wide, rather more kindly, with good stones of ore. In the winze, below the 60 west, the lode is 2 ft. wide, producing stones of ore, but not to value. In the 70, west of Good Fortune, the lode is 3½ ft. wide, worth about 10*l.* per fm. In Symons's shaft, below the 60, the lode is 3 ft. wide, with occasional stones of mineral. In the rise, above the 44 west, the lode is 18 in. wide, worth 5*l.* per fm.; the winze under it is stopped, being poor, and a pretty large quantity of water. In the 20, west of ditto, the lode is small, and no mineral.—W. SYMONS: March 20.

UNITED HILLS.—In the 90 fm. level, we hope to resume the driving of these ends by Friday next, after putting down a new working piece, the old one having broken out, which has caused the delay in forking the water to this level. In the 80 fm. level, eastern end, lode 3 ft. wide, worth 20*l.* per fm.; west of cross-cut, lode 18 in. wide, worth 15*l.* per fathom. In the 70 fm. level, eastern end, lode 2 ft. wide, worth 8*l.* per fm. In the stopes, the lode is 4 ft. wide, worth 25*l.* per fm. In the 60 fm. level, no tutwork. Shallow adit, lode 2 ft. wide, producing but little ore. At Wheal Charles, the 50 fm. level, lode 2½ ft. wide, producing but a small quantity of ore. In the 40 fm. level, east of Gibson's, the lode in the end is 3 ft. wide, worth 12*l.* per fm. The lode in the winze is 6 ft. wide, worth 15*l.* per fm. In the stopes, the lode is 3 ft. wide, worth 18*l.* per fathom. At Wheal Sparrow, in the 40 fm. level, western end, no lode broken for the past week. In the stopes, the lode is 18 in. wide, worth 8*l.* per fm. In the 30 fm. level, lode 8 ft. wide, worth 18*l.* per fm. In the 20 fm. level, no tutwork. Adit level, lode small, and unproductive. —T. TREVENEN; R. WILLIAMS: March 23.

WEST WHEAL JEWEL.—In the 115 fm. level, east of cross-cut, on Wheal Jewel lode, ground more favourable for driving than when last reported. In the 100 fm. level, west of cross-cut, on Wheal Jewel lode, lode 9 in. wide, worth 4*l.* per fm.; the winze, in the bottom of the 100 fm. level, east of cross-cut, on the same lode, not taken down in the past week. In the winze, in the bottom of the 85 fm. level, west of cross-cut, on the same lode, lode 18 in. wide, producing some stones of ore, with a more promising appearance than when last taken down. In the 70 fm. level west, on same, lode very small and unproductive, harder for driving. In the 12 fm. level, west of Quarry shaft, on Tolcarne tin lode, lode 2 ft. wide, worth 15*l.* per fm. The winze, in the bottom of this level, worth 25*l.* per fm. The stopes, east of Quarry shaft, on the same lode, worth 12*l.* per fm. The stopes, in the bottom of the adit, east of Pryor's winze, worth 16*l.* per fm. The adit end, west of Quarry shaft, worth 10*l.* per fm. In the 12 fm. level, west of old sumpshaft, on the same lode, lode worth 12*l.* per fm.—R. JOHNS: March 22.

WEST WHEAL MARIA.—The lode in the eastern engine-shaft is about 5 ft. wide, producing good stones of ore; at the western engine-shaft the sumpmen have completed the 11 in. lift, and they are now employed putting in pent-house, hanging tackle, &c., preparatory to sinking under the 54 fm. level. In the 54 fm. level, east of this shaft, the lode is about 2 ft. wide, producing a little ore; in the ground in the cross-cut south, in this level, there is no important alteration.—T. RODDA: March 23.

WHEAL ADAMS.—In the 60 fm. level, driving south, the end is still in the elvan course—this lode is 1 ft. wide, with mundic, jack, and lead in it, a very kindly-looking lode; I think that it will make lead when it gets clear off the elvan. In the 50 fm. level, driving south, on the eastern lead lode, no lode taken down since last reported. In the 40 fm. level, driving south, on the western silver-lead, the lode is not so good as it was last week—the lode is worth about 3*l.* per fm. The 28 fm. level cross-cut is very much the same as last reported; the tribute pitch that is in the bottom of the 40 fm. level is looking very well—that is, they are 5*s.* in 20*l.* The tribute department is very much the same as last reported. Capt. Bawden was up yesterday, and weighed off the brown jack, 91 tons 2 cwts., dry weight. I have seen Mr. Beater yesterday: he is expecting a vessel every day for Bristol to ship the lead ores. We have now on the mine, dressed, 35 tons of lead, waiting to be carried off as soon as we can send off that that is down at the cellars for us to have room to put more; we are still rising the lead faster than we can dress it with the conveniences that we have for dressing it.—T. MOYLE: March 23.

WHEAL AGNES.—The lode is still 3 ft. wide, producing some good stones of ore, just the same as last report.—B. ROBINS: March 23.

WHEAL BLENCOWE.—We have set our eastern end on the new lode on tribute—the men are working well, and are breaking good work. Our north end, on Blencowe lode, is looking promising; the lode is 3 ft. wide, fair work, we are well pleased with its appearance; the country is also of a very promising character; judging from the present appearances, there can be no doubt but, when we intersect our great east and west lode, which is about 13 or 14 fms. from our present end, we shall have a large quantity of rich tin. Our backs are looking much as usual, we have five pares of tributers working on them, breaking plenty of work. Our stamps are now well supplied with work; next week we intend to return about 130*l.* worth of tin, most of which has been very lately broken. In the course of a few days, we shall drop the large lift with all possible speed, after which our mine will be in a fair way of working, both with regard to machinery and underground operations.—JOHN DALE.

WHEAL CONCORD.—The lode in all the levels in the western part of the mine is still of a very enticing character. In the 38 west the lode is 18 in. wide, with a little sulphate of barytes distributed through it, and particles of lead; the surrounding strata has a considerable quantity of mundic in its composition, and I consider the indications in this level to be good. In the rise, above the 28 west, the lode is 3 ft. wide, producing good stones of lead. The lode in the 20 west is 2 ft. wide, flookan, calcareous spar, and small portions of lead—very kindly indeed. The stopes in the bottom of the 10 are rather improved since last week, and there is every probability we shall raise considerably more lead in the latter than in the former part of the month. Our parcel of dressed lead is now computed 18 tons. The ground in the 38 south is not so hard as it has been, and I calculate to have about 3 fms. to cut the first south lode. As the severity of winter is nearly passed away, and the lodes in the sett only partially sought after, I think it would be advisable to immediately commence costeaning from the lead lode northward, where lodes might be found of much importance to the mine. If the committee approve of this, I will fix two men about it at once.—J. B. CLYMO: March 25.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINES.—*Gongo, Jan.* 2.—The bed of the river above Mr. Allcock's house has been completely scraped, and its produce extracted at the strakes; these are now being removed to the front of the Casa Grande, and the intervening portion will be washed in like manner. The tedious experiment with Mr. Quinby's apparatus is still in progress. I am sorry to say, the mine has not presented a single circumstance calling for remark. Our various trials in the mine and at Capun Gordura, are being prosecuted with the utmost activity, but hitherto without success. Gold return for the half-year, ending 31st Dec., 1846, 125 lbs. 6 ozs. 1 dwt. 8 grs.—W. J. HENWOOD.

NATIONAL BRAZILIAN MINES.—*Cocaes Mine, Jan.* 3.—We have more pleasure in handing you the present mining monthly report than has hitherto been our lot since the commencement of the works at Serra Velha; although the Christmas holidays have greatly impeded our work, and, in consequence, our stamps have been idle for a considerable time, yet, taking these unavoidable circumstances under consideration, our produce is, notwithstanding, rather favourable. Our returns for last month amount to 90 marks 5 ozs. 3 oits. 28 grs., which is very encouraging; indeed, it would have been considerably more, but from the circumstances, previously informed you, we could not supply our stamps: the ores, however, continue to produce favourably; and as the negroes, whom you have removed from the Cuiaba Mine to this place, have commenced working, and the holidays ended, we have not the slightest doubt but that we shall be able to supply our stamps with ores from the eastern ground after to-morrow; when, should it continue to yield, as its present appearance promises, our returns for January month will be far better than those for the month now ended. Gold account for 19 days, to the 3d Jan.: Cocaes, 8 marks 5 ozs. 1 oit. 45 grs.; Cuiaba, 1 mark 4 ozs. 1 oit. 60 grs.—10 marks 1 oz. 2 oits. 39 grs.—JOHN HITCHINS: THOMAS JOHNS.

ALTEN MINES.—The following is the estimated produce for January :—

Mines.	No. of men.	Tons ore.	Per ct.	Tons copper.
Raipas	24	70	7	4·90
United Mines	12	28	4½	1·33
Ryper's	10	6	6	0·36
Mancur's	12	10	5	0·30
Michell's	8	20	6	1·20
Cole's	4	3	4	0·12
Quenvig	2	3	4	0·12
Total	72	140		9·53

Mining Report, from the 24th January to 6th February.

Raipas.—The arrival of the Quenangen people has enabled us to resume some of the old workings, from which, it will be observed, we have somewhat increased the present month's produce. In Monk's shaft another branch of ore has been intersected; but former discoveries having proved of such short duration, we are deterred from holding out such hopes of its permanency as the prospects would certainly justify us in doing. Labouchere's lode continues to yield profitable returns, and has now so far developed itself as to enable us to state with confidence, that the discoveries recently made in Monk's shaft are in connection with, and form a part of, this lode, and operations are already commenced for connecting the two places without delay; by the end of this month we hope to form the communication. Should the ore-ground in Monk's shaft be found, on further trial, to strike off towards the south-west, it will be of great importance in proving the existence of the ore under, and contiguous to, the greywacke formation in that direction. The produce of Carr's lode is still fluctuating; the best part, however, is found in the bottom; but, from the great extent of the workings, we are obliged to take away the less productive backs before we resume operations in depth. The new lode, to the north-west of Labouchere's, continues to make favourable development, and yields fair returns of dredgy ore. As soon as circumstances permit, we propose resuming some of the old workings on the heavy spar lode, in the south-east part of the mine, where the prospects are also good; the lode in this part is small—but the ore, consisting principally of buntkupererz, and copper pyrites, perfectly pure and free from mundic, is rich, and will undoubtedly yield remunerating returns. We are now delivering the produce of this mine to the smelting-house, with as much despatch as possible; but the great quantity of ice formed on the roads, as well as on the fiord, with little or no snow for forming the winter roads, sadly impedes the progress that would otherwise have been made, and renders this operation more difficult and expensive than formerly.

United Mines.—At Ward's, the lode continues promising, and the several workings yield fair returns. The tributers at Woodfall's, since the return of the frost, have also been making rather more favourable progress.

Ryper's.—The returns from the old workings have greatly deteriorated; and all the operations in this part, with the exception of a stope with two men, for proving the lode under the present level, have been suspended. The new lode, however, continues to yield a small but profitable return of good ore, and its prospects are favourably developing.

Mancur's.—One of the stopes has been suspended, but an improvement in another part will enable us to increase the returns hereafter, and we hope at less expense.

Michell's.—The shallow adit, easterly, is still opening reserves of orey ground; which, although not rich, are promising, and will be stoped advantageously. It will be perceived, from the estimates, as well as the delivery to the smelting-house, that the produce of this mine has exceeded our expectations.

Cole's.—We have now commenced stoping with eight men; the lode on each side the sink is productive, but the quality of the ore is low; it is, however, a good flux, and will materially assist in the reduction of the less fusible Raipas ore.

Old Mine.—We have this month resumed operations here with a few hands on tribute, who are to be remunerated for the produce in proportion to its value. Our present engagement is $3¾ per barrel, for 5 per cent. ores, $4 for 6 per cent., and in the like proportion for those of a higher or lower per centage.

Quenvig.—The workings at this mine, for the ensuing two months, are also set on tribute, at the rate of $4 per barrel for 5 per cent. ore, and for a higher or lower per centage as at the old mine.—S. H. THOMAS.

BOLANOS MINES.—*Annual Report of the Directors.*—Pursuing the course adopted last year, the directors of the Bolanos Mining Company have the pleasure of submitting to the shareholders a brief summary of the leading events which have occurred, in connection with the company's affairs in Mexico, since the date of their last annual report. In that report it was explained, that so far as regarded the old mines of San Clemente, San Nicolas, and Malanoche, the prospects for the future were by no means encouraging; that the reserves were fast coming to an end, and that the chances of fresh discoveries were but limited, the works of trial being reduced to two points; neither of these having since led to anything of importance, and the produce having in consequence gradually declined to an almost insignificant amount, insufficient to cover the cost of drainage and the general expenses of an establishment, it has been determined to return the mines to the owners, which, it is understood, will have been done at the end of January.

In the mine of San Francisco de Paula the works have been prosecuted with vigour, and very high hopes have been excited by the discoveries made from time to time. Hitherto, owing to the bunchy nature of the lode, the produce has been insufficient to cover the costs; but the ores are generally of good quality, and in places very rich; and as all that has been seen of the lode is said to favour the conclusion that, at a greater depth, it will prove more constant in its produce, there is reason to hope that very shortly this will become a profitable mine. The new shaft is now 30 varas below any of the present workings, at which depth a cross-cut is driving with the fairest prospects—so that the character of the lode will be shortly ascertained at this increased depth, and the upper workings being at the same time effectually drained, an increase in the returns may be expected, some of the richest points being at present under water.

In the mine called La Celestina, a good deal has been done since last report; it has for some time past produced a constant supply of ores; and, although the profit at present is but small, the ores are of so very superior a quality, that should the extraction increase as is expected, the returns will be very considerable.

But by far the most promising and important, as it is the most extensive, of the Company's undertakings, is the new mine, called El Bote. In the last Annual Report, an explanation was given of the circumstances which had prevented the Company's agent from taking possession of that mine. The directors have now to state, that the misunderstanding which had been the cause of its non-delivery, being shortly afterwards cleared up, possession was formally given to the Company on the 3rd of August last, when they had the satisfaction of finding that a gradual and steady improvement had meanwhile taken place, insomuch that the owners' claim on the mine, which at the date of the contract was $63,256, is reduced to $19,871, by profits made between that period and the delivery. In the same report it is also stated, that, as soon as the chief obstacle then existing (want of air) could be removed, a considerable increase in the produce might be confidently expected; and this anticipation has been to the fullest extent realised: ventilation was obtained in June last; and the average weekly extraction, which was in the preceding month 560 cargas, for the month of October reached 2190 cargas per week, while for the whole period, from July to December, or 26 weeks, the general average has been 1620 cargas per week; and, taking the ores on hand at the end of December at what is considered a fair valuation, the profit for the five months during which the company have worked the mine, will not have been less than $44,000. It is to be observed, that these results, obtained as they have been from workings on one lode, at one level only, fully establish the high character for productiveness, which the veins in this district have acquired; and when it is considered, that throughout the whole extent of the ore-ground in this level, which has been driven on the course of the lode more than 100 varas, the best ores are said to have been left in the bottom, covered with water, not only may a considerably increased extraction be looked for, but a decided improvement in the quality of the ores may with equal reason be expected, as soon as the drainage is effected. The accomplishment of this object being of primary importance, the principal shaft is sinking as rapidly as circumstances will allow, with the view of driving another cross-cut to the lode, at a depth of 25 or 30 varas below the present workings.

It is further to be remarked that, besides the San Eligio vein (the name of that at present worked), the setts comprise several others of at least equal pretensions, none of which have been seen at any depth; some of those, which run parallel to, and no great distance north of, San Eligio, were, like it, intersected by the 35 vara cross-cut; at this level all the lodes, San Eligio included, were equally unproductive, though exhibiting indications of improvement in depth. At 110 varas the second cross-cut was commenced, and here it was, that the San Eligio lode was found to have improved as has been described; by continuing this cross-cut north, therefore, the other lodes will be intersected; and it is not unreasonable to expect that at the same depth an equal improvement will be found to have taken place in them.

The two lodes of by far the highest character and promise in this district have, however, yet to be explored—these are called San Jorge and Nueva Valenciana; the same which in Quebradilla, and other mines not far to the west, have produced in former times some of the most celebrated bonanzas of Zacatecas. Looking, therefore, at the extensive field which the company have now before them, considering the numerous lodes comprised in this property, and that the high reputation which they enjoy has been so amply confirmed in the case of the only one of them on which any researches have been made, the directors consider that they have abundant reason to congratulate the proprietary on its acquisition—it appearing to them that at no period, since the failure of the Veta Grande bonanza, has there been so favourable a prospect as at present, of re-establishing the company on a footing of permanent prosperity.—JOHN HEAD, Secretary.

REAL DEL MONTE MINES.—*Report from the Directors.*—The favourable expectations, entertained by the directors at the last annual meetiug, have to a certain extent been realised—the profit on the year 1846 amounting to about $65,000, notwithstanding that many obstacles presented themselves requiring great exertions to overcome, one of the most serious of which was an increase of water in the branch mines of Acosta and La Luz. When the 54-inch engine was removed from Terreros to Acosta, it was thought sufficient, with the 30-inch engine already there, to drain the mine to a much deeper level; but large streams of water were subsequently met with, which the two engines were found incapable of drawing while the heavy rains of the season continued. Hence no ore could be obtained from the best workings of Acosta and La Luz during several months of the year, and the raisings have only been resumed since the dry season set in. The experience of last year having shown the inadequacy of the present engines to maintain the drainage of these particular mines, a requisition for a more powerful engine was received a few months since. Although the directors feel this to be a very heavy charge, particularly when they had hopes of being able to make a payment of interest on the debentures of the company, they have, after mature consideration, deemed it best for the interests of the company to comply with the requisition; and have accordingly ordered an 85-inch cylinder engine, which is now in course of preparation, and the major part of which they are only prevented from sending to Mexico by the blockade, which at present closes the Mexican ports. Throughout the whole of the year there was no augmentation of the silver produce from the barrel establishment, while there was a positive expenditure of upwards of $ 16,000 incurred in alterations and additions at Sanchez Hacienda alone.

The directors are, however, happy to state, that 16 barrels have been added to the eight previously at work, and that the whole were expected to be in operation in February. By the last advices they are informed, that it is intended to erect eight more barrels at Sanchez—making a total of 32 barrels, capable of reducing 1100 cargas of ore weekly. The 24 barrels at San Antonio Hacienda still remain to be completed, but the blockade of Vera Cruz prevents the introduction of the machinery prepared here for the grinding mills; and until it be received no effectual progress can be made in the work. The directors are happy to state, that the company's mines present favourable appearances of continued productiveness. On the Biscaina vein the workings of San Enrique have yielded large returns of rich ore, and the prospects of the mines continue very good. The workings of La Luz on the Santa Brigida vein have also been very productive, when not interrupted by water. Sacramento on the same vein, and the mine at Santa Ynez, have also yielded considerable quantities of common ore.

The mine of Rosario in the Pachuca district continues productive, and some ore of a richer quality has lately been discovered in the deepest level of that mine. Several important and promising trials are now in progress in ground hitherto unexplored. One of these on the Tapona vein has recently entered some good ore ground, and is already producing, according to the last accounts, about 120 cargas of ore weekly. It is with much satisfaction the directors have to state, that a decided advance has been made in the amelioration of the processes for extracting the silver from the ore. The operation of smelting the rich ores (generally very expensive) has been performed at less cost than in any former year. The improvement of the patio amalgamation, discovered by Mr. Bowring, and introduced at Regla Hacienda, has been attended with considerable benefit. The reduction by the barrels has also undergone great improvement; and the process is now beneficially established for the reduction of an abundant class of ore, not capable of being reduced by the ordinary method of amalgamation. Mr. Spangenberg has steadily pursued his experiments, with the new lixiviation process, in which no quicksilver is used, and has reduced altogether upwards of 4000 cargas of ore with considerable, if not complete, success. The reduction by this method costs about one-third less than that of the barrels; but the extraction of the silver is not at present so perfect as by the barrels. The general result, or net return, however, approaches so nearly that of the barrels, as to render it probable that the new method will eventually be employed to a great extent, particularly as it requires only a comparatively small capital for its establishment.

The detailed accounts of the company will, as usual, be submitted to the proprietors at the annual general meeting in June next, when the results of the past year's operations will be more exactly ascertained.

It would have been gratifying to the directors to have at this time declared a payment of interest on the debentures of the company; but, owing to the losses of 1844 and 1845, the profit of 1846 only puts the company's finance in about the same position it was in when the first half-year's interest was paid in 1843. Existing circumstances, moreover, with reference to the war in Mexico, and the demand for a new steam-engine, render it expedient to retain a sufficient amount of capital in hand, to secure the company against the risk of contingencies. The directors, however, bear in mind the claims of the debenture holders, and will not fail to make the earliest practicable distribution of any surplus funds.

The present year has commenced with better returns and prospects. The number of productive points in the mines has increased, and the measures adopted for improved drainage and additional reduction power will, in the opinion of the directors, very materially conduce to the future prosperity of the company.—JOHN PHILLIPS, Secretary.

CARADON MINE.—At a meeting of adventurers, held at the mine, on the 17th inst., the accounts were presented, showing—Labour cost for January, 168*l.* 13s. 11d.; cost and materials for Feb., 190*l.* 8s. 4d.=359*l.* 2s. 3d.—Balance of last account, 76*l.* 8s. 10d.; call of 30s. per share, 384*l.*; arrears of calls, 146*l.*=460*l.* 8s. 10d.: leaving balance in purser's hands, 101*l.* 6s. 7d.—A call of 1*l.* per share was made; and the following report from Capt. S. Seccombe was read to the meeting:—The engine-shaft has been sunk 3 fms. 3 ft. 6 in. since the last meeting, making the present depth 13 fms. 3 ft. 6 in. below the 35 fm. level. We have to sink 8 ft. 6 in. more to reach the 50 fm. level, at which depth it is intended to cross-cut and lay open the lodes; and from the very encouraging indications contained in them, where already laid open, I have every reason to believe they will be found productive, and yield large quantities of copper ore. The winze sinking below the 35 fm. level, on the course of Geach's lode, near the cross-course, is down 13 fms. 2 ft., the ground being favourable for sinking, and the lode continues large and regular, with some good ore intermixed; as soon as this winze is completed to the 50 fm. level, a cross-cut will be commenced towards the shaft, to facilitate a communication at this level, and when this is completed, levels will be driven, both east and west, on the course of the lode, which I calculate will lay open good tribute ground.

EAST COMBE.—At an adjourned meeting of shareholders, held at the Fortescue Arms Hotel, on the 16th inst.—Mr. ROWE in the chair—it was resolved—That the rules now standing on the cost book be rescinded; and that the rules, as revised by the committee, be substituted in lieu thereof.—Messrs. Carpenter, Pengelly, Rowe, Finch, and Hodge, were appointed to form the committees of management until the half-yearly meeting in April next.

HARROWBARROW CONSOLS.—A meeting of shareholders was held at Golding's Hotel, on Thursday, the 4th inst.,—PETER GLUBB, Esq., in the chair.—It was resolved, that the purser having seen Mr. Gardiner, the duchy officer, relative to continuing the mine idle, and he having dissented thereto, and Capt. Samuel Seccombe having inspected the mine, and reported that it will take 800*l.* to give the mine effectual trial, the lease and interest of the adventurers, together with the materials, be advertised for sale by public auction, on Tuesday, the 30th inst., at the mine; and that the lessees be requested to assign the said lease to the purchaser or purchasers thereof.—In pursuance with the above resolution, the purser has issued advertisements to carry the same into effect.

TREVISKEY AND BARRIER.—The accounts for Dec. and Jan. were made up on the 23d inst.: they represent, at *Treviskey*, as received for ore sold, Nov. 26, (less 111*l.* 15s. 6d. dues), 1229*l.* 11s. 3d.; materials charged Barrier, Dec. and Jan., 12*l.* 19s. 3d. = 1242*l.* 10s. 6d.—Labour cost, Dec. and Jan., 512*l.* 5s. 8d.; tribute of ore, 46*l.* 2s.; merchants' bills, &c., 283*l.* 1s.; Tresavean adventurers, engine cost, &c., 85*l.* 15s. 3d. = 927*l.* 8s. 11d.—shows profit, 315*l.* 6s. 7d.; add balance end of Nov., 88*l.* 7s. 10d.; makes total of 398*l.* 14s. 5d.—Dividend of 3*l.* per share, now declared, 360*l.*; leaving 38*l.* 14s. 5d. in hand, to be carried to next account.—The following is the report of Capt. J. Jennings:—The 176 fm. level is 26 fms. east of the shaft; the end is unproductive. The 188 fm. level is 3 fms. ditto; the lode is 1 ft. big, promising, with good stones of ore. The 200 fm. level is 28 fms. east of the shaft; the lode is 3 ft. big, worth 30*l.* per fm. The 236 fm. level is 8 fms. ditto; the lode is 2 ft. big, worth 25*l.* per. fm.; in the shaft, sinking below the 236 fm. level, the lode is 4 ft. big, and will turn out 8 tons of ore per fm., worth 6*l.* per ton. The lode in the rise, in the 248 fm. level, against the shaft, is 2 ft. big, worth 12*l.* per fathom. We expect to communicate the winze from the 212 fathom to the 224 fm. level, in the course of the present month; after which, we shall commence driving the 212 fm. level east. We last week sampled 334 tons of ore, and expect to raise 33 tons for March and April.—The statement of *Barrier* shows amount received for ore sold, Nov. 26 (less 28*l.* 4s. 7d. dues), 367*l.* 0s. 6d.; cost-book short divided end of November, 2*l.* 19s. 10d.; overcharge, 1*l.* = 371*l.* 0s. 4d.—Labour cost, December and January, 96*l.* 15s. 8d.; tribute of ore, 54*l.* 15s. 6d.; merchants' bills, &c., 32*l.* 11s. 3d.; Tresavean adventurers, engine cost, &c., 44*l.* 11s. 7d.; income tax, 13*l.* 7s. 6d.—showing profit, 128*l.* 18s. 10d.; add balance end of Nov., 58*l.* 7s. 4d.—makes total of 182*l.* 6s. 2d.; dividend of 1*l.* per share, now declared, 120*l.*—leaves 62*l.* 6s. 2d. in hand, to be carried to next account.—The following is the report of Capt. J. Jennings:—In Barrier we have no tutwork bargains. We expect to raise sufficient ore from the tribute pitches to meet the water charge and other expenses of the mine.

WHEAL ANDREW AND NANGILES.—At a meeting of the adventurers, held at the mines, on the 15th inst., the following accounts, showing balance of 796*l.* 17s. 9d. against the adventurers, were seen and allowed:—Balance last account, 598*l.* 15s. 5d.; Jan. tutwork cost, 355*l.* 15s. 8d.; tribute, 135*l.* 1s. 3d.; Feb. tutwork cost, 309*l.* 1s. 10d.; tribute, 16*l.* 10s. 4d.; merchants' bills, 451*l.* 5s. 5d.= 1866*l.* 9s. 11d.—By call of 2*l.* per share, 470*l.*; copper ore sold, less dues, 257*l.* 9s. 2d.; black jack, less dues, 58*l.* 6s. 9d.; arsenic, 63*l.* 7s. 9d.; black tin, less dues, 220*l.* 7s. 6d.; short credited on jack last account, 1s.: leaving balance, 796*l.* 17s. 9d.

WHEAL HELEN ST. AUBIN.—At a meeting of adventurers, held on the 13th inst., at the Hotel, Praze, it was reported, that Capt. Mark Reed (late of Wheal Vor), and Capt. William Kitto (of the Great Consolidated Mines, Gwennap), having been underground, and, from the promising appearance of the mine, recommend that the eastern level be continued; also, that in the eastern caunter, and the end east, in the western caunter, so as to better determine where the engine should be planted, and also to further develope the said several lodes and caunter lodes.—It was resolved, that, with a view to raise funds to enable the above suggestions to be carried into active and immediate execution, Capt. Reed be delegated, from this meeting, to dispose of sufficient shares for the purpose.—That this meeting be adjourned to the 4th of May, to enable the incoming adventurers to attend such meeting, and determine on the future management of the mine.—That the cost, as per cost-book, be the estimated value of the shares at this date, and all parties joining the enterprise on or before the end of April be accounted as original adventurers, and as such to participate in all and every advantage as one of ourselves.

MINING COMPANY OF IRELAND.—At a meeting of the Waterford Board of Guardians—Sir BENJAMIN MORRIS WALL in the chair—Mr. PETHERICK was introduced, and said, that he came to make an application for a reduction of the rate struck on the Bonmahon Mines. He did so, as the value of the mines at present was considerably reduced. In the last year there was a loss to the Company of 1,600. In consequence of the great increase in the price of provisions, they were obliged to supply food to their men at a serious loss. It was quite open to the board to investigate the accounts of the company, and not to rely on his mere *ipse dixit*.—Mr. MORRIS: I take it, that the valuation of the mines was not to be regulated by what profit they might produce, but by what they might be let for.—Mr. DOBBYN: What rent do you pay?—Mr. PETHERICK: We have different landlords, some of whom get one-tenth of the produce, and some one-twentieth.—Counsellor WALSH said, they would have every opportunity to object to the rate about to be struck, which the Act of Parliament allowed, but he thought that the present application was anticipating the striking of the rate.—Mr. PETHERICK: At the time of the last valuation, an objection was very properly raised by the Board, that the Company did not make their application in time, and it was on that account that he came now before them.—Counsellor WALSH: May not some important improvement take place in the business of the mine before the new rate shall have been struck?—Mr. DOBBYN: The application is a very judicious one, as there will be a new rate struck in about four months at farthest, and there cannot be any beneficial improvements within that period.—Mr. MORRIS: What amount of reduction in the valuation do you seek for?—Mr. PETHERICK: We wish to have a reduction of 1,500*l.*, so as to reduce the valuation to 2,000*l.* The yearly rent, at present, amounts to about 2000*l.* The account of expenditure for the month of December shows a loss of 109*l.*, and the prominent cause in the reduction of profits, was the reduction in the price of copper ore, which was much lessened within the last five years, in consequence of its being imported from Australia. The Company received no assistance from the landlords, and were, consequently, at great loss in keeping the mines open, which they did for the purpose of giving employment to the poor, in order to keep them out of that house. They had again and again applied for leases, in order to get building powers, that they might make improvements; but in no instance had they succeeded. The landlords would give them no leases, even for that purpose. During the last twelve years they paid 200,000*l.* in hard cash for labour, and yet the village of Bonmahon was in a worse state at present than at the commencement of that period. The landlords are averse to giving leases, and Mr. Power O'Shea said that he would keep no paper on his estate.—The Guardians then told Mr. Petherick, when the proper time would arrive, that they would give the application the fullest consideration. They all agreed in stating, that the greatest praise was due to the company, for the exertions they were making to give employment to the people.

SHEFFIELD LEAD MINING COMPANY.—The works of this newly-formed company, situated at Eyam, Derbyshire, present an aspect of energetic activity, quite interesting to those praiseworthy individuals who delight in mining enterprises. At the Cliff-stile Mine, there are upwards of 30 men very profitably employed; the mine, within these few days back, has exhibited unequivocal signs of becoming richer still. The level, or adit, to Eyam-edge, the place where the grand deposit of ore is all but certain to exist, is progressing; and, what is more satisfactory, at no cost to the company, the veins contiguous yielding more profit than is required to carry on the level. Such is the result of a speculation, based on experimental and scientific knowledge.—*Sheffield Iris.*

ACCIDENTS.

Dolcoath Mine.—As B. Berryman and a companion were tamping a hole, for blasting, it suddenly exploded, killing Berryman, and injuring his comrade.

East Wheal Rose.—As S. Brewer and a companion were sending a kibble up from the 80 fm. level, the iron chain broke, and the kibble fell, killing Brewer, and doing much damage.

Coltness Iron-Works.—As J. Dougal was getting into the cage to descend to his work, the engine, turning the wrong way, took the cage up instead of down, precipitated Dougal to the bottom, and killed him.

Cleland Colliery, Holytown.—J. Marrow was killed by a fall of stone.

Broomside Colliery.—W. Hall was killed here by a fall of coal.

Thornley Colliery.—J. Christopher was killed here by being crushed between a waggon, laden with three tubs of coal, and the side of the pit.

Crow Trees Colliery.—E. Ward was run over—the wheel of the rolley waggon, crushing his head, killed him on the spot.

Standish Coal Company, Wigan.—B. Tickle was killed here by a fall of coal.

Broadgate Colliery, Masborough, near Leeds.—Seven miners were sadly burned by an explosion of fire-damp.

Park-head Colliery, Dudley.—As two men, named Wilmot and Jones, were loading a skip, they were crushed by a fall of coal.

Holly Hall Colliery, Dudley.—Z. Faux was killed by a fall of coal.

Colliery Explosion.—Wednesday morning an explosion took place in some coal mines belonging to B. Gibbons, Esq., Shut-end, which, we are informed, burnt seven individuals, some of whom are so seriously injured that their recovery is despaired of. The pit has recently been opened, and, we presume, sufficient time has not elapsed to have the mine properly ventilated.—*Wor. Chron.*

Accident at Park-Gate Pit.—We are sorry to have to announce that a serious accident occurred last Friday, at the above colliery, belonging to G. W. Chambers, Esq., son of the late respected magistrate at Hatton-garden, London. We have no reason to suppose that the individual who caused the fatal accident was guilty of anything more than incantion—indeed, one of the principal sufferers, whom we saw in his dreadfully burnt state, insists that it was purely accidental. Six other individuals have been seriously injured, and it is miraculous that lives were not lost on the occasion, and even now it is doubtful whether a coroner's inquest will not take place.—*Sheffield Iris.*

Distressing Accident.—An alarming report was spread through the neighbourhood, on Thursday last, that a pit's company of men and boys were smothered in one of the pits at White Brickkiln-lane, from the roof of the pit falling in, which created great sensation and alarm. Means were resorted to, to rescue the poor sufferers, happily with success, as about 10 persons were brought out alive; but one poor boy, son of Thomas Corbett, of the Red Lake, was brought out of the fallen stuff quite dead, and a horse (used in the pit) was also dead by him.—*Wolverhampton Chronicle.*

The Cause of Colliery Explosions.—On Tuesday, an inquest was held by Mr. Henshall, deputy county coroner, on view of the body of John Rothwell, a young man about 26 years of age, a collier, in the employ of Messrs. Knowles, of Clifton, who had died from severe burns received in an explosion of fire-damp on the 5th inst. The case displayed one of the most determined instances of that recklessness which characterises colliers. It appears that it was the custom in Messrs. Knowles's pits for the underviewer to examine each before the men went down, and to report the places in which he found foul air—such report being hung up in the counting-house after it was made. On the forenoon of the day in question, the deceased and another collier, named James Fildes, were cutting away a pillar which separated one "bay" from another; the bay in which they were catting was free from foul air, but the other into which they were about to cut had been reported foul that morning by the underviewer. Notwithstanding that he was aware of this, in the absence of Fildes, who had gone for a waggon, Rothwell, in order to get the pillar down earlier than he could by continuing the work in the safe bay, went with a lighted candle to the opposite side, where the foul air was accumulated in considerable volume, and an explosion was the immediate consequence. As soon as the atmosphere was cleared, he was got out, and conveyed to his own home, where he received the attentions of Mr. Dorning, of Swinton, surgeon; but he had received such dreadful injuries on the face and breast as to prevent all hopes of recovery from the first, and he lingered in great suffering until the 12th inst., when he died. It was fortunate for Fildes that he was some distance from the place, as he must have shared his companion's fate, though it appears probable that the deceased took advantage of his absence to commit the daring act, which ended in such terrible results to himself. The deceased was well aware of the danger of the bay, and was provided with a safety-lamp especially on that account, but he refused to work with it. There were 30 or 40 men in the pit, and about a dozen were near the bay in which the explosion took place, and exposed to the effects of the deceased's culpable conduct; but, fortunately for them, the gas was not so powerful as to effect them injuriously, and all escaped. The jury returned a verdict of "accidental death." The deceased was a single man. We understand that the treatment adopted by the medical gentleman was to cover the burns with common flour, and for this purpose 14 dozen pounds were used.—*Manchester Times.*

Fatal Boiler Explosion at Burradon Colliery.—On Saturday last, a fatal accident occurred at this colliery, by the bursting of one of the boilers used in working the engine of the pit, by which three persons were killed—viz., a man, a woman, and a boy. The colliery is about six miles north of Newcastle, and belongs to Lord Ravensworth and partners. The engine attached to the pit is of 90-horse power, and three boilers, of large dimensions, and of an oval shape, are used to work it; but on the morning of the accident only two were in operation. A few minutes previous to the occurrence, the engineman, on examining the float, found the water more than a foot above the working mark; but, as the steam was low, he gave directions to the stoker, Robert Thompson, to raise the fires; soon after which the boiler suddenly burst with a tremendous noise, carrying away part of the engine-house and chimney, killing three persons, and injuring, more or less, several of the workmen at the shaft. The boiler was torn into three pieces, and parts of it were blown a considerable distance into an adjoining field. On examining the place, the stoker was found almost buried in the ruins, dreadfully scalded and bruised, but quite dead; and a female, named Margaret Proctor, wife of one of the miners, who was at the place getting water, was lying a few yards from him. The other sufferer was a boy, about 11 years of age, named James Gordon, employed at the bank. The engineman escaped, though much scalded in the face, and injured in the head. Several of the workmen were also seriously injured by the flying bricks, &c., but are all expected to recover. On Monday, an inquest was held on the bodies, before Stephen Reed, Esq., coroner; when the following witness was examined:—Anthony Scorer said he had been engineman at Burradon colliery for 26 years. Last Saturday morning, about nine o'clock, the boiler belonging to the colliery burst, by which Robert Thompson, Margaret Proctor, and James Gordon, were killed. There were several others more or less injured by the explosion. The boiler had two safety-valves, but only one was used, which was three inches in diameter. The other could have been used if necessary. The working valve was regulated with the steel-yard weight. About 20 minutes previous to the accident taking place, he examined the boiler, and found at that time about 4½ feet of water in it. The working mark was about 3 feet 2 inches. He ascertained that by the float inside of the boiler. It was possible for the float to stick, but on that occasion it was free and loose. The safety-valve was also free and loose. About a fortnight ago, they had a little caulking of the boiler. There were no rivets then put in. He considered, after these repairs, that the boiler was strong and sufficient to work. The plate of the boiler itself was three-eighths of an inch in thickness in every part, and he (the witness) considered it a very good one. The fact of the destruction of the engine-house, and other buildings, showed that the boiler was a strong one. About 20 minutes before the explosion, he perceived the engine going slower, and went to the safety-valve, and worked it up and down; and, considering the steam to be low, he desired the stoker to raise the fire by putting more coals to it. From all his experience he could not give any opinion as to the cause of the explosion. The engine was about 90-horse power, and they worked it at 50 lbs. to the inch. He thought the boiler plates were not heated more than usual, but believed otherwise, on account of the steam being lower than usual. It was stated to the witness after the explosion, that the appearance of the field adjoining the engine-house to 100 yards, exhibited sufficient proofs of a quantity of water having been in the boiler, so that he might be satisfied that the accident did not occur from the want of water He was much scalded at the time on the face, and he received a wound on the head. He could not tell how he escaped, and before the explosion he had not the slightest apprehension of any accident. There was always plenty of water at hand, and the man who lost his life would not have worked, if there had not been plenty of water. The deceased was a timid man, and on that account he (the witness) worked the boiler always with a foot more water in it than he considered necessary. There was little possibility for the boiler being surcharged with steam while the engine was at work. The boiler was ten years old. One safety-valve was quite sufficient to work with. The weight on the lever was calculated at 50 lbs. the square inch. The length of the lever was 2 feet.—The jury, at the conclu-

sion of the witness, signified to the coroner, that as they were satisfied that the explosion was an accident, their minds were made up, upon which they returned a verdict of "accidental death."—*Newcastle Advertiser.*

Yew Tree Colliery, Kingswinford.—On Tuesday seven boys were sent down the shaft early in the morning to brush out the sulphur, when in a short time after their descent, owing to a candle being in the back ground, an explosion of gas took place, which so dreadfully burnt them, that little or no hopes are entertained of their recovery.—*Worcester Journal.*

Explosion in Belgium.—Seventeen miners were killed on the 23d inst., by an explosion of fire-damp in a coal mine in St. Chislain wood, province of Hainault.

MINING NOTABILIA.

Devon and Courtenay is improved—the lode in the shaft (on the north lode) is looking very encouraging; they have broken very fine stones of copper ore, weighing as much as ¼ cwt. in a stone. There is also an improvement in the deep adit on the south lode; this deep adit end is just now getting clear of the very fast rising ground, and coming into the level country, where it is more likely to be found productive, as it must be near 40 fms. below the surface. I expect we shall see this south or great gossan lode, 30 fms. deep from the engine-shaft, in about four weeks from this time.

Marke Valley.—I have frequently remarked to you my utter objection to agents (however talented) coming from the western part of the county, to inspect, and report upon mines in the eastern district, because the geological stratification of the ore varies so much from the other. This opinion will, no doubt, be more strongly confirmed in me, from the following fact:—Some months since, a mining agent, of general acknowledged talent, in conjunction with two others, were called upon to inspect and report on this mine, when they recommended the suspension of further operations in a certain direction; this was accordingly done by the directors, although in direct opposition to the views of their excellent manager, Mr. J. Wolferstan, and their indefatigable agent, Capt. J. Seccombe: weeks elapsed before these gentlemen could persuade the directors to be allowed to resume the former driving; having received their sanction, they renewed their efforts with satisfaction, and in a short time they cut the lode, worth from 35*l.* to 40*l.* per fm. The lode has not been so rich for some time past, but they have a good lode still, and likely to continue. This enterprising company deserves a good mine; and we trust their patience, perseverence, and outlay, will be rewarded with an adequate remuneration. We were pleased to see their samplings increase, and verily believe they are only in their infancy.

Herodscumbe.—I enclose you a small stone of lead ore, which I have broken off from a very large one, that you may see the quality of the ore we are raising; this stone was in our north end yesterday, in the back of which they have got a good pitch to set, and the end in that direction is continually improving. They will commence making dressing floors immediately, having saved a great many scores of cart-loads of work, not very rich certainly, but to good to throw away; what they are now breaking is better, as the end will pay for driving for some distance.

Herodsfoot.—This mine is propressing very satisfactory, and never looked so well as she does at present.

Herodsfoot.—We have an improvement in our bottom end south. The lode is worth one ton per fm.

Harrowbarrow Old.—In about a week, there willbe from 4 to 5 tons of very good tin for sale. By sample taken since burning, it is worth 50*l.* per ton.

Callington.—We have now opened a little more on the silver-lead lode, to the south of Vivian's lode, in the 125 fm. level, and calculate on its being worth 25*l.* per fm. The 80 fm. level north, also looks better than when the report was sent off.—March 23.

Wheal Franco.—There is nothing particularly new at this mine. The ore ground still continues productive; and, as the lode is laid open, more ore is discovered than was expected; and now the frost is gone, the results will be shown. Two men took a pitch on tribute for Nov. and Dec., in the back of the 10 fm. level, at 16s. in the *l.*, and made about 20*l.* each in two months. It was set to them again for Jan. and Feb., at 10s. in the *l.*; the lode improved so much, that they have raised over 100 tons of ore, and will get above 100*l.* each in two months. This pitch is now let at 2s. 3d. in the *l.*; the shaft is let to sink 15 fms. below the 47 fm. level. This looks like business; indeed, the whole surface of the mine has assumed a very improved appearance, and will shortly, when all the arrangements are completed, stand second to none.

Balnoon Consols is situated in a very rich mineral district; all around it there has been mines that have given great profits; that part of Balnoon Consols, which was worked about 10 years ago, also gave great profits. Its situation is very good, having Wheal Reeth, Wheal Margaret, Wheal Mary, and Reeth Consols Mines joining it—some of which have yielded the adventurers 70,000*l.* profit, and are now giving dividends. There has been added (since her last working) a very extensive piece of ground, through which run many lodes, very contiguous to each other, yet untried, but are now about to be worked, which may be expected to produce large quantities of tin, which is of the very best quality. There is already erected a steam engine, horse-whims, count-house, and workshops, the cost of which is from 1600*l.* to 1800*l.*, and there is everything convenient for the further extension and excavation of the mine. The cost, with the last call, will make 25*l.* per 128th share, and she is worked by a very influential party, principally Cornish gentlemen.

Gwinear Consols.—I have much pleasure in informing you of an improvement in Gwinear Consols; but the extent, or particulars, I will not advise you, before I have seen for myself, which I purpose doing to-morrow. The two-monthly meeting was held on Monday last, when a call of only 1*l.* per share was made, and not 5*l.*, as was threatened by the London secretary—perhaps, with a view to intimidate the weaker holders. However, the shareholders at the meeting were in high spirits, in consequence of the discovery, and would, no doubt, have responded to a 5*l.* call, as the 1*l.* now made.

North Wales Mining Company.—In our advertising columns will be found the prospectus of a company formed for working extensive, and considered highly-valuable, mineral property, extending over an area of above 1000 acres, in the county of Merionethshire. The company will be conducted on the Cost-book System; and the richness of the several ores as taken from the assays of our first-rate mineralogical chemists, the facility of working the mines without expensive machinery, and the easy shipment of the ores, give promise of rendering the undertaking profitable to the adventurers.

Lanherdoe Wheal Maria.—At the request of Mr. Crofts, the secretary, we give insertion to the following letter, which has been addressed to him, in explanation of a paragraph, published in last week's Journal:—"I have seen in the *Mining Journal*, of the 19th inst., a paragraph of rather an unusual character, reflecting somewhat upon me as an agent of this mine, and signed, 'R. W.;' I consider that, if this person be a shareholder, his proper course would be to write me, when I should certainly be most happy to give him any information in my power; and if he be not a shareholder, he has no right to seek any information respecting this mine, either from me or any other quarter. As, however, the paragraph may have met the eyes of the committee, or rather of some shareholders who may not have the same means of access to information as the committee, I beg to state for their information, that the accident alluded to, is such only as all mines are subject to, and was not, by any means, of a character to call forth any special report. I certainly consider it my duty, whenever any accident of this kind occurs, to endeavour to get it repaired, instead of occupying any time in writing reports upon it. There is no difficulty in explaining the cause of it—it was a joint blown; it arose from a flaw in the flange of the working barrel, it not being strong enough; and this, I should think, would have furnished an obvious and sufficient excuse for my silence. With regard to the cost, the monthly accounts will show that; and I am not aware that it is my duty to show them to anybody but the committee. I might, with much greater reason, call upon 'R. W.' to give his reason for publishing such a paragraph.—John Tabb."

Qualifications for a Mining Agent.—We have received a communication, signed "An Old Miner" (Truro), informing us, that he had received two prospectuses of mines in the St. Ives district, and a string of queries as to his qualifications for acting as agent, which he was requested to answer through the *Mining Journal*, the letter being signed, "A Friend to Mining." Now we do certainly not feel much flattered by "A Friend to Mining" attempting to make us the go-between in such an unfair inquisitorial mode of ascertaining a man's character, instead of going openly to work, and writing for references in the usual way. The letter is quite inadmissible in its present form, but as it may cause an interview between the parties, to the benefit of "An Old Miner," we have no objection to state generally, that his answers go to show:—That he was born a miner; is acquainted with all the districts in Cornwall and Devon; has been an agent 24 years; has made a great number of inspections and reports; and that, having inspected the two mines in question, he candidly believes the party who recommended them was perfectly justified in doing so. With respect to the question, as to the reports of mines appearing in the *Mining Journal* regularly, we can only state, as our unbiased opinion, that if they did so appear in all cases, it would greatly tend to further the interests of mining generally.

Cwmbrain Bar and Boiler Plate Works.—We are happy to hear, that the result of the experiment made at these works, for the manufacture of boiler plates, is no longer problematical. Mr. John Hughes, the engineer, of Pillgwenlly, has made several boilers with the Cwmbrain plates, and speaks of their quality in the highest terms. It is a singular circumstance, that the two buoys put down near the New South Wales Railway bridge, over the River Usk, at Newport, were made by Mr. Hughes, with some of the first plates manufactured at the Cwmbrain Works; and if a date were now put upon them, they would offer a lasting record of the year in which these works were established. We hear that the plates have already been successfully introduced into the markets of London, Liverpool, Glasgow, and Bristol.—*Mon. Merlin.*

WHEAL CURTIS MINING COMPANY.

Sir,—I perceive, in the last impression of your paper, a letter, to a certain extent, likely to be prejudicial to the Wheal Curtis (Crowan); and, as it is stated that the lode takes a north and south direction, I beg leave to state, that the bearing of Wheal Curtis lode is precisely the same as the most productive lodes for copper ore in Godolphin Mine. Permit me to observe, that I have no personal interest in the matter, not knowing any of the Wheal Curtis shareholders; but I wish every company of shareholders, whether they reside in London, Liverpool, or elsewhere, success, provided they carry on their proceedings legitimately. However, I know something of Wheal Curtis, having been underground in the mine frequently for two years, during the period it was wrought by the executors of the late Capt. Teague, who was the sole proprietor, and a good miner, which is a proof of his opinion of the mine. I think Wheal Curtis to be a fair speculation, if worked *prudently*; and the Wheal Dumplin lode has very good indications in the adit level, from the appearance of which I was very anxious to drive a cross-cut from Kendall's shaft south, to intersect it at the 30 fm. level; but, owing to want of capital, it was not done. I consider this county much indebted to "out-adventurers" for mining capital; and think, if they meet with success, that no individuals are more inclined to extend their operations, which the labouring class of people are certain to feel the benefit of, as well as many others.—T. Richards: *Marazion, March* 23.

WHEAL CURTIS MINING COMPANY.

Sir,—Having seen two letters in your Journal of March 13 and 20, respecting the Wheal Curtis Mines, and fearing that an unfavourable opinion should be formed by the public, in consequence of their assertions, I take the liberty of sending you a few facts and remarks on the subject, as I have been well acquainted with the mine, and its locality, for many years. The late proprietor, Capt. Teague, was my uncle, whom I much esteemed and respected as a miner; but from his having so many mines at once under his direction, it was next to impossible but that some should fail of being so well managed as they might have been. My uncle opened up this mine with the intention of selling her to a company; therefore, the engine was not such a one as he would have erected, had he intended giving her a thorough trial himself. This he informed me of at a time when he offered me the mine and materials for the sum of 40,000*l.* I refused attempting to form a company at that price. "Well (he said), I shall make *that* of her, and will not sell her under, for she will make a good mine." The engine was a 42-in. cylinder, with only 2 ft. stroke in the shaft, and in so bad a condition, that the coals she consumed would have well worked a 70-in. engine 9 ft. stroke. They were about 10 years in completing their underground operations, which ought to have been executed in less than five; therefore, there was a loss, when they ought to have realised a profit, as the mine is only 47 fms. deep, the ground inexpensive to break, and the ores sold amounted to more than 11,000*l.* I copied the accounts from the mine ore book myself, in the presence of Capt. Delbridge, the mine agent. Wheal Curtis is situated to the south of the Great Wheal Abraham Mines, on the same hill, in the same strata of ground; and the appearance of the lode, as far as explored, of the same character, only it has been more productive of copper ore, and its appearance altogether more promising than Wheal Abraham; this is also the opinion of Capt. Nicholas Vivian, who was an agents in the latter mine, and in whose opinion all the most respectable agents in the county place the greatest confidence.

Your correspondent is in a sad mistake, respecting its being a cross-course; nor can he be a miner at all, as he does not know a cross-course from a lode. Who ever heard of a cross-course making 11,000*l.* worth of ore? I was an underground agent in Binner Downs, mentioned by "Z.," and know that mine and Wheal Treasury, well; they are to the west of Wheal Abraham, in another hill, and the strata much altered, generally making profit about the 40 fm. level, and not one in that hill and neighbourhood made profit much under that.

Wheal Abraham, on the contrary, did not begin to be rich until under the 80 fm. level. Godolphin Mine is to the south-west of Wheal Curtis, in a vale at the foot of a *granite* hill, and made profit at 40 fm. level, and above; but Curtis, being on a hill, must be sunk at least 80 fms. deep, to be on a level with Godolphin.

I consider Wheal Curtis a very good adventure, and, from all appearance, likely to be fully as productive as Wheal Abraham. There are five other lodes now visible in the same sett, and good miners speak in terms of high approbation respecting them. It is a matter of surprise, that the Wheal Abraham agents did not pay greater attention to this part, as had they worked it when their mine was rich, they might have continued in active operation to this day. I presume "Z." knows his own motives for inserting the letter to which I refer; but if he will take the trouble to inquire, he will find my statement correct.

Camborne, March 24. H. A. Vivian.

MINING ON DARTMOOR.

Sir,—In the *Mining Journal* of the 6th ult., I observe the Editor's opinion on this subject, which I, with many other miners, am happy to find is not adverse to carrying on operations in that locality; and there are many spirited capitalists who would be glad to turn their attention to mines in that neighbourhood. Capt. Spargo is not far from the right point, when speaking of the beautiful stratas which exist in Hillsburrow Old Mine; and those who read that excellent paragraph, will see that the mines, which have been worked in a proper manner, have yielded a profit to the adventurers, and that to no small extent. Perhaps, it would be well to notice those mines which have been worked in a proper manner, and those which have not.

Birch Tor Mine was worked for more than 20 years by a company, and all the lode that was taken down and drawn to surface was 100 sacks, or 50 whim kibbles. Now, I would ask any one, if this would not induce any spirited adventurers to go and examine the mine, and judge for themselves. I am told by mining captains, well able to judge, that this mine would pay her cost if the lode only produced 400 of tin per 100—but more than this is anticipated, as the mine is looking exceedingly well.

Hillsburrow was worked at the same time, but did not give so much profit as Birch Tor. This will, on reference to the cost-books of each mine, appear to have arisen from the fact of the miners' wages in one being from 4*l.* to 5*l.* per month, with captains who attended to their duties; while, in the other, they averaged, in 1820 and 1821, 7*l.* to 10*l.* per month, and captains and men spent half their time in idleness and drinking; it would, certainly, be impossible for a mine to pay under such circumstances.

There are other good mines on Dartmoor; and, a few days since, I saw a mine which has been worked for the last 17 years, by two or three poor men, who have raised tin enough to obtain a livelihood; and what would a company, with capital, not have done by way of profit. I shall be glad to give any information in my power, and inspect any mines which may hold out advantages which might induce capitalists to join in an adventure. There are a great number of cross-courses on Dartmoor, which is a very promising feature of the district, as, where the lodes and they intersect, there is generally great productiveness. There is plenty of water-power for machinery, and every inducement for gentlemen of capital to adventure on mining operations in this promising locality.—T. Dunn: *Tavistock, March* 23.

Pantdrainiog Slate Company.—We observe that the promoters of the company, which has been formed for working this quarry, have extended the time for the payment of the deposits till Wednesday, the 7th of April. This we consider the most judicious course that could have been adopted in the present state of the money market; for, although this is one of the most valuable, and, we fear, one of the few *bonâ fide* undertakings, which have appeared before the public for some time, yet those who are willing to become subscribers, must not at present be pressed too quickly for the deposits. A very great recommendation in favour of this company is, we think, the amount of the deposit. Unlike most of the speculative schemes which have lately been concocted, with a deposit of 6d. and 1s., and which, we fear, is all the promoters of these bubbles can expect, if even, in many cases, they receive the payment of that small sum upon a great proportion of the shares they allot, the Pantdrainiog Slate Company have wisely required a deposit of 2*l.* 10s.; and if that amount is not paid into the bankers by the day appointed (7th of April), the letter of allotment is to be held positively cancelled. We believe, however, that the company do not depend upon the public to any great extent; for it is reported that, besides a good many shares which were taken before the company was advertised, some large capitalists have since evinced a disposition to come in for a few hundred. The following are a few particulars as to the situation of the quarry, &c. The Pantdrainiog estate, on which the quarry has been opened, covers an area of 39 acres, and the estate is situate on the Great Bangor roofing slate formation, in the valley of Ogwyn. The celebrated slate quarries of Penrhyn and Festiniog are in the immediate vicinity. The quarry itself occupies an area of three acres, and has been almost entirely opened upon the blue vein. The gross marketable quantity of slate now uncoverable, and available, is estimated as 80,000 tons. At Bangor, from which the quarry is distant five miles, the company possess a wharf and offices; and at the quarry, every requisite, in the shape of machinery, &c., for the immediate production of slates—some of which, we believe, they will be able to have in the market within a fortnight from the commencement of operations. Of the value of this article at present, some idea may be formed, from a remark which was made to us a few days ago, by a person largely engaged in the slate trade; after observing on the great difficulty he found in procuring a sufficient supply, and the consequent high price he had to pay, he added—"Yes, slates are money." We are continually hearing of complaints of a similar nature; and any means that can be adopted to meet the supply, in any degree, must be of great benefit to the building trade. We consider this a good opportunity for builders having a chance of their wants being supplied—for we have no doubt those customers to the company, who are also shareholders, would, in the case of a great demand, have a preference to another who has not. We believe there has already been some demand for the shares, at a small premium—but, when better known, we expect to see them at a higher price.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

This Day.....West Flanders Railway—London Tavern, at One.
Tuesday.....Van Diemen's Land Company—Office, at One.
British Empire Mutual Life Assurance Company—office, at Two.
Lamberooe Wheal Maria Mining Company—offices, at Two.
Wednesday...Alfred Consols Mining Company—offices.
Clarence Railway—George and Vulture Tavern, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

Clarence Railway.—At a special meeting of the Clarence proprietors, held on Tuesday, the 23d inst., at the George and Vulture Tavern, St. Michael's-alley, Cornhill,—Henry Blanshard, Esq., in the chair.—The Secretary read the advertisement in the *Durham Advertiser*, of the 26th Feb., also read memorandum of agreement between the Clarence Railway Company and the Leeds and Thirsk Railway Company, by which it appeared that the Government loan shares, the first-class shares and the second-class shares, were to remain at their present interest, and that, after providing for the respective amount of those shares, the sum agreed on would leave to the original shareholders about 55*l.* per share.—The second clauses of the bill having been read once, the following resolutions were passed:—Resolved, that the draft of the proposed bill, now submitted to this meeting, held specially for the purpose of considering the same, and which bill is entituled, "A Bill to enable the Amalgamation of the Clarence Railway and the Leeds and Thirsk Railway," be approved of; and the same is hereby approved of.—Resolved, that the committee of management of this company be authorised to propose, and this meeting doth assent to, all such alterations, if any, in the said bill in its progress through Parliament, as the committee of management may think proper to assent to and adopt, or as may be required by Parliament.—Thanks were voted to the chairman and committee, and the meeting separated.

Shrewsbury and Birmingham Railway.—The second ordinary meeting of this company was held at the London Tavern, on Friday, the 26th inst.—The Hon. W. Clive, M.P., in the chair.—The report stated that the amalgamation with the Shrewsbury, Wolverhampton, and South Staffordshire Company, had been completed by the registration of the class B shareholders, who were now allowed to elect six directors. The subscribed capital would now stand as follows:—Class A shares, 500,000*l.*; amount authorised to be subscribed towards the capital of the Birmingham and Stour Valley Company, 300,000*l.*; class B shares, 500,000*l.*—1,300,000*l.*—The works were proceeding rapidly. Contracts for that part between Shrewsbury and Wellington, and for the part between Wellington and Shifnall, have been let; the contract between Shifnall and Wolverhampton, is advertised to be let on the 15th April. The directors saw nothing to hinder the opening throughout next year. The Shrewsbury and Chester and Shrewsbury and Hereford will have a joint interest in the station at Shrewsbury, as well as this company and the Shropshire Union Company. The directors have made a call of 1*l.* 15s. on the B shares, and it is intended to make a call of 2*l.* 10s. on the class A shares in next Aug. The receipts were 249,104*l.* 16s. 2d., and the payments 164,506*l.* 19s. 1d.—leaving a balance of 84,597*l.* 17s. 1d.—The report was adopted, when the meeting was made special, for agreeing to the bills for the Dudley and Madeley branches; also, for opposing the agreement entered into between the London and North Western and the Stour Valley Company, on the part of this company.—These resolutions were passed, when a vote of thanks was given to the directors of the company.

London to Paris in Twelve Hours.—A great event in the national history of France took place on Saturday last, by the opening of the railway from Rouen to Paris; and thus a traveller from London, *viâ* Southampton, by steamboat to Havre, and the Rouen and Havre line, may now reach Paris in 12 hours, with favourable wind and tide.

First Telegraph Dividend.—The New York and Buffalo Magnetic Telegraph Company have established the fact, that magnetic telegraphs, when well managed, are safe and profitable investments. They have declared a dividend of 3 per cent. for the five months ending 7th February. This is the first dividend ever declared. The earnings of the line have been $11,000 since 7th of September, of which the expenses have absorbed about one-third. Of this dividend the patentees get $2700, which may be considered the first practical result of this great discovery.

The Cornwall Railway.—We have the satisfaction to announce, that Mr. Peto, with Mr. Beatty, his head manager, and Mr. Glennie, Mr. Brunel's chief engineer, passed over the whole line, and made a personal inspection of it last week. On Tuesday last, the directors, at their meeting, agreed to let the contract for the whole of the line to Mr. Peto, on the most satisfactory and advantageous terms. It is understood, that all the works will be completed in two years and a half, except Saltash Bridge, which may be finished in three years.—*Cornwall Gazette.*

Extraordinary Speed on the Narrow Gauge.—Mr. Crampton's engine, the *Namur*, constructed for the Namur and Liege Company, reached a speed of 75 miles per hour on Monday last, upon the short level of the portion of the London and North-Western line between Euston-square and Harrow. We believe that the rate of speed was noted by Captain Coddington, who rode upon the engine. It is stated that the engine was perfectly steady at this high velocity. The *Namur* has been tested with "fast," "stopping," and "heavy" trains, and has always done her work much within the allowed time. The driving-wheel of the *Namur* is 7 ft. in diameter. We are informed that a very powerful engine, on Mr. Crampton's principle of construction, and with 8 ft. driving-wheels, will be brought upon the London and North-Western line early in May next.—*Railway Record.*

Railway Contracts for the Ensuing Week.—Buckinghamshire Railways—6000 tons of rails, and 3900 tons of chairs, April 1; Dundalk and Enniskillen—axles, waggons, &c., March 29; East Lancashire—works, and maintenance of permanent way, March 31; Glasgow, Airdrie, and Monklands—rails and sleepers, March 29; London, Brighton, and South Coast—stations, March 29.—*Railway Chronicle.*

Mineral Wealth of England.—The annual yield of minerals in the United Kingdom, of which by far the larger portion is raised in England, is thus stated in the first number of *Weld's Popular Atlas*:—Coal, 30,000,000 tons; iron, 1,500,000; copper, 12,000; lead, 20,000, valued at about 400,000*l.*; tin, 4000, worth about 250,000*l.*; salt, 15,000,000 bushels; besides gold, in small quantities, from the Wicklow mountains, and the Cornish stream-works; and zinc, manganese, arsenic, antimony, sulphur, black lead, gun flints, slate, marble, limestone, &c.; and it is computed that the mineral productions of the English isles, cannot be worth less than 20,000,000*l.* yearly. In the raising of which, however, the cost of labour forms a very important item.

FOR SALE—FIVE (128ths) SHARES in LELANT CONSOLS MINE, adjoining setts with the Wheal Margaret, in the parish of Uny Lelant.—Price £35 per share.—Apply to Capt. Thomas Richards, Marazion.

BANWEN IRON COMPANY—OFFICES, 23, THREADNEEDLE-STREET, LONDON.—Notice is hereby given, that all SHARES in this company, on which NO DEPOSITS or CALLS have been PAID, will, at the expiration of 21 days from the date hereof, be declared to be FORFEITED, unless all sums due in respect of the same, with interest thereon, be paid into the bankers of the company, Messrs. Spooner, Attwood, and Co., on or before the 18th day of April next.
London, March 27, 1847. By order, S. P. HARRIS, Secretary.

RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730 miles of railway, was 123,333*l.*, thus accounted for:—57,486*l.* for the conveyance of passengers only, 37,849*l.* for the carriage of goods, and a remainder of 26,948*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 15,223*l.*, when the mileage was about 1,920.

Name of Railway.	Lgth. Rway.	Present actual cost.	Last Div.	Traffic Returns. 1847	1846
				£ s. d.	£
Arbroath and Forfar	15	£142,900	3 p.c.	237 11 6½	195
Chester and Birkenhead	15	656,293	2½	521 5 5	508
Dublin and Drogheda	35	689,248	3½	692 11 9	653
Dublin and Kingstown	6	349,736	9	590 9 2	638
Dundee and Arbroath	16½	156,323	6	312 9 11½	567
East Lancashire	28	814,417	—	845 2 7	—
Eastern Counties	184½	6,513,096	7	8892 4 9	6981
Eastern Union	18	327,353	—	499 0 0	—
Edinburgh and Glasgow	46	2,112,136	6	3342 3 5	3673
Glasgow, Paisley, and Ayr	53	1,567,281	7	2126 6 8	1777
Glasgow, Paisley, & Greenock	23	429,427	2	950 2 2	732
Great Southern and Western	56½	1,343,718	—	1200 11 7	—
Great Western	241	6,695,605	8	16254 4 2	18849
Ipswich and Bury	26½	303,766	—	433 0 0	—
London and North Western	878½	18,042,004	10	35887 17 10	34752
London and Blackwall	4	1,102,717	1½	859 14 3	695
London, Brighton, & South Coast	113	5,109,667	5	5755 3 10	3771
London and South-Western	127	4,278,789	9	6330 19 5½	5228
Manchester & Leeds	117	5,036,201	7	7713 7 9	5296
Manchester, Sheffield, & Lincolnsh.	49½	1,635,221	5	1947 18 3	1696
Midland Company	322½	7,869,374	7	17414 10 3	19449
Newcastle and Berwick	9	1,184,079	5	725 13 7	—
Newcastle and Carlisle	65	1,184,080	5	2151 16 6	1666
Norfolk	70½	1,199,689	6	1552 0 6	1225
North British	72½	1,459,958	—	1344 11 10	—
Preston and Wyre	30	422,014	2½	860 16 4	517
Shrewsbury and Chester	13	264,845	—	334 10 1	—
South Devon	80	1,001,363	5	478 16 0	—
South-Eastern	140	5,735,184	4½	6844 16 9	5134
Taff Vale	30½	888,411	6	1474 6 4	1103
Ulster	25	256,353	5	702 7 6	625
York and Newcastle	183½	1,716,317	2	5618 19 7	2232
York and North Midland	162½	2,484,[illegible]	10	8790 13 8	6217

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 7 per Cent., —	Belgian Bonds, 4½ per Cent., 96 ½
3 per Cent. Reduced Ann., —	Dutch. 2½ per Cent., 59
3 per Cent. Consols Ann., 89¼ ⅜	Brazilian, 5 per Cents., 87
3 per Cent. Annuities, —	Chilian, 6 per Cents., 94½
3¼ per Cent. Ann., —	Mexican, 5 per Cents., 22 1¼
Long Annuities, 9¼	Spanish, 5 per Cents., 22¾
India Stock, 10½ per Cent., 248½ 7½	Ditto 3 per Cents., 34¼
3 per Cent. Consols for Acc., 89⅜ ¼	Portuguese, 5 per Cents., 84 ½
Exchequer Bills, 1000l. 2d., 3 pm. 1 dis.	Russian, 5 per Cents., 110½

MINES.—The amount of business done in the mining share market has been rather limited this week. There is much business to be done, but sellers generally will not conform to the prices offered. There is very little doubt but the market will improve, and continue firm.

Callington shares have been in demand at an advance upon last week's quotation, a considerable improvement having been made within the last few days.—West Providence meeting, of Tuesday last, declared a dividend of 30s. per share; and a dividend of 4l. per share has been made by the Treviskey and Barrier meeting.—North Pool, West Seton, West Bassett, West Trethellan, and Bedford United, may find buyers.—Treviskey and Barriers are still inquired for, and buyers are inclined to advance on their former biddings.—North Roskear are also sought for at our present quotation (220l.)—Drake Walls have been done at par; and the encouraging prospects of East Tamar have brought buyers into the market; but they are not generally inclined to give the prices quoted by sellers.—Herodsfoot and Herodscoombe are saleable—the latter at a premium, whilst the former does not obtain our last quotation.—Callestock shares have advanced since our last, in consequence of an important improvement.

We noticed last week, that the almost incredible demand for slate, both for home and colonial consumption, had brought several prospectuses for working slate quarries before the public. Since then, we find that the Pantdrainiog shares have been in request, at an increased premium, and several transactions have been effected; and that the Coombe Valley, another slate company, had been formed, and the allotments generally paid upon.

Business in the following mines has been done during the week—viz., Mendip Hills, Stray Park, West Wheal Jewel, Wheal Metha, West Bassett, Drake Walls, Bucketts, Treleigh, Silver Valley, Great Wheal Michell, West Providence, Bedford, Kirkcudbrightshire, &c. &c.

Australian shares since the account have again taken a rise—a large number changed hands on that day, and they subsequently fell in price, and but little business was done; but within the last three days they have advanced, and are again sought for, principally for the next account.—The North British Australian Company's shares have been much inquired for; several transactions have been effected. This was originally an agricultural company; but the discovery of a copper ore, of a rich per centage, in the small island of Kawaw, off the coast of New Zealand, is bringing the shares into this market, and are likely to make a stock for safe investment.—Some business has been done in Bolanos, Copiapos, and Cocaes, which, we believe, is the extent of transactions in the foreign share market.

RAILWAYS.—The share market at the commencement of the week exhibited some degree of firmness; and although no extensive dealings took place, rather better prices for most descriptions of shares were obtained. By the close of Tuesday, a falling off was visible, compared with the previous improved tone. The loan to the Paris and Lyons Railway Company was the general topic of conversation: it is stated it will amount to 80,000,000 fr. (3,200,000l.) On Thursday, the market was in a state of inaction, compared with the commencement of the week: no business of consequence was transacted, and the week may be considered as not very brisk, although prices in general left off at higher quotations than at the close of last week, but not to the extent which might have been expected.

MEETINGS.—HITCHIN AND HERTFORD: public meeting at the Town-Hall, Hertford; petition to Parliament was unanimously carried, for the most direct line between Hitchin, Ware, and Hertford.—WATERFORD, WEXFORD, AND DUBLIN: special meeting, to receive report from Messrs. Boyce and Perry, as to the result of their negociations with the directors; as it was not satisfactory, three propositions were agreed to—viz.: to move for an injunction, restraining the directors from enforcing the call of 10s., due April next; to oppose, by all legal means, the directors' amendment bill, now in Parliament; and to petition for a dissolution of the company.—GREAT WESTERN: a special meeting of proprietors was held at the Paddington station, on Tuesday last—Charles Russell, Esq., M.P., in the chair. The draughts of the 22 bills promoted by the directors in the present session, were put to the meeting in succession, and sanctioned. On the moving of the first two or three, Mr. Marriott made repeated attempts to elicit information respecting the financial position of the company. The Chairman referred him each time to the full and satisfactory statement of the company's finances submitted to the last meeting of proprietors. At last, apparently wearied with Mr. Marriott's importunity, Mr. Russell appealed to the meeting, whether his interrogator, seeing he had opposed the inerests of the the Great Western, at a late meeting at Birmingham, ought to have his questions answered. To a question from Mr. Vousely, the Chairman replied, that every effort would be made by this company to come to amicable terms with all their neighbours.—LONDON AND SOUTH WESTERN: A special meeting of proprietors was held at the Nine Elms station, on Tuesday last. W. J. Chaplin, Esq., M.P., in the chair. The 19 bills promoted by this company were successively put and affirmed. Mr. Locke, in reply to a shareholder, stated that their aggregrate capital was about 6,000,000l. The chairman expressed regret that little progress had been made since last meeting: they had been compelled to wait for Mr. Strutt's bill, which would not be completed till after Easter. Mr. Kirby addressed the meeting at considerable length against the bill. The chairman stated that the reason why the bill had not been more vigorously opposed, was the general understanding that considerable modifications would be made by Government, when the bill came again before the House of Commons. Mr. H. Ker Seymer was elected a new director—his opponent (Mr. Serjeant Gaselee) having retired.—THAMES HAVEN AND DOCK: the report congratulated the directors on their improved prospects. The ground for the dock was purchased, and it would be necessary to have a railway from Orsett to Tilbury; it was believed the concern would be prosperous; the money already expended had been 30,433l.; and cash in hand, 44l. 9s. 9s.

The Whitehaven Junction Railway was opened for general traffic on the 18th inst.

Edinburgh and Perth passed the Standing Orders, and allowed to proceed.

At Messrs. Lamond's sales on Tuesday, business may be considered as having been rather brisk; and the sale showed a slight improvement over the previous week. On Friday, prices remained steady, and fair business was done.

HULL, THURSDAY.—The market has been slightly better since our last, but there remains the same indisposition to deal on the part of both buyers and sellers. Speculators, therefore, in the absence of materials for business, have no margin for their operations. Great Northerns have shown an inclination to advance, and are marked a few shillings better. One part of the public are selling Consols, which have, in consequence, given way, to lend their money to the railway companies, on equal security, at a higher rate of interest; and another part are selling shares, because Consols are marked lower! This is not, however, stranger than many things in the share trade.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Adair's Main 15 - Chester Main 16—Dipton Tanfield 14—Hasting's Hartley 16 6—Holywell Main 17—New Tanfield 14 9—Ord's Redheugh 14 9—Tanfield Moor 17—West Hartley 16 6—Wall's End Acorn Close 17—Harton 18—Wharncliffe 18—Eden Main 19 to 19 3—Braddyll's Hetton 20 3—Haswell 21—Hetton 20 9—Keepier 19 3—Lambton 20 3—Shotton 19 6—Stewart's 20 9—Hartlepool 21—South Kelloe 18 6—Thornley 19—Adelaide Tees 20 3—South Durham 18 6.—Ships at market, 58.

FRIDAY.—Carr's Hartley 16 3—Davison's West Hartley 16 3—Dean's Primrose 15 3—Dipton Tanfield 14—Hasting's Hartley 16 3—Holywell Main 16 6—Nelson's West Hartley 16 3—New Tanfield 14 9—Original Tanfield 14—Ord's Redheugh 14 9—Townley 15—Tanfield Moor 17—West Hartley 16 3—Wylam 15 9—Wall's End Bewicke and Co. 17 6—Clarke and Co. 15 6—Gosforth 17 3—Harton 17 3—Hedworth 15—Hilda 16 3—Hotspur 16—Killingworth 17—Northumberland 16—Wharncliffe 17 3—Eden Main 18 to 18 6—Belmont 18 6—Braddyll's Hetton 19 3—East Hetton 17—Haswell 19 9—Hetton 19 6—Lambton 19 3—Russell's Hetton 19 3—Stewarts 19 6—Whitwell 18—Hartlepool 19 6—Hudson's Hartlepool 19—High Thornley 17—Kelloe 19 3—Thornley 18 3—Adelaide 19 6—Cowpen Tees 17 3—Denison 17—Gordon 15 6—Seymour Tees 18—South Durham 17 6—Tees 19 6—Cowpen Hartley 16 3—Derwentwater Hartley 16—Sidney's Hartley 16 3.—Ships at market, 117.

NEW PATENTS.

C. Fox, Trafalgar-square, Charing-cross, engineer, for improvements in the permanent way of railways, and in carriages to be employed on railways.—(Being a communication.)

W. B. Tibbits, Braunston, Southampton, for certain improvements in obtaining and applying motive-power.

H. Heycock, Manchester, merchant, for certain improvements in rotary-engines to be worked by steam, or other power—which said improvements are also applicable to raising or forcing fluids.

M. Lyons, Birmingham, chemist, and W. Millward, of the same place, silver operator, for certain improved alloys of metals, and improvements in the deposition of metals.

G. F. Wilson, Belmont, Vauxhall, Surrey, for improvements in the production of light, and in the manufacture, or preparation, of materials applicable thereto.

H. Hatcher, Strand, civil engineer, for improvements in electric telegraphs, and in apparatus connected therewith, and also in electric clocks and time-keepers.

F. S. Meldon de Sussex, Millwall, Middlesex, manufacturing chemist, for improvements in smelting copper and other ores.

W. Bruce, 4, Essex-court, Temple, and Flimstow, near Pembroke, barrister-at-law, for improvements in constructing piers, breakwaters, and other submarine works of stone.

DISCOVERY OF COAL IN SOMERSET.—The parish of Yatton has recently been the scene of great rejoicing, on account of the discovery of a vein of coal, between 3 and 4 ft. thick, on the estate of J. H. Smyth Pigott, Esq., of Claverham. The strong belief that coal existed somewhere in the neighbourhood, induced Mr. Pigott, about a year ago, to commence boring for it.—*Bath Chron.*

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7	—
512	Albert Consols	½	2
1024	Alfred Consols	4½	50
285	Andrew and Nangiles	28½	14-16
10000	Ayrshire Iron Company	2½	2½
128	Balnoon Consols	25	25
10000	Banwen Iron Co.	2	—
1000	Barristown	4½	30
4000	Bedford	2½	4
128	Besore Lead Mine	14	10
330	Birch Tor Tin Mine	21½	14½
8000	Blaenavon	50	40
100	Botallack	175	225
120	Brewer	5	7
10000	British Iron, New, regis.	10	17½
—	Ditto ditto, scrip	10	19
128	Budnick Consols	32½	40
128	Burthy	20	21
100	Bwlch Cwmerfin	20	—
128	Callestock	17	70
1000	Callington	19	30
256	Caradon Consols	47	5
256	Caradon Copper Mine	9½	1
256	Caradon Mines	15	15
256	Caradon United	24	15
256	Caradon Wh. Hooper	12	5
1000	Carn Brea	15	90
2048	Carmarthen Consols	2	5
112	Charlestown	200	175
166	Cleveland	9	1½
1200	Combmartin	7½	4½
1000	Comblawn	½	2
128	Comfort	45	80
256	Condurrow	20	22
2560	Cook's Kitchen	2½	4
1000	Copper Bottom	1	5
1024	Cosheen	4½	10
240	Craddock Moor	15½	15
128	Creeg Braws	120	200
500	Cubert Mine	12	25
7100	Derwent	8½	5
1024	Devon&CourtenayCon.	5½	4
1000	Dhurode	2	5
186	Dolcoath	30	65
10000	Durham County Coal	45	2
256	East Alvenney	3	10
112	East Caradon	40	40
2048	East Crowndale	4½	2½
512	EastCombe Silver-Lead	6½	16
128	East Pool	5	21
100	East Relistian	22	35
9000	East Tamar Consols	1½	3
—	East Wheal Albert	1	3
94	East Wheal Crofty	280	310
—	East Wheal Fortune	—	—
128	East Wheal Rose	50	1200
—	East of Scotland Iron Co.	1½	1½
123	East Wheal Seton	14	20
256	Exmoor Wh. Eliza	3½	10
512	Fowey Consols	40	45
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	¼	½
1000	Godolphin	25	35
256	Gonamena	21	50
128	Goonvrea	4	5
244½	Grambler & St. Aubyn	—	35
100	Great Consols	1000	400
256	Great Callestock Moors	22	26
2560	Great Michell Consols	1½	5½
256	Great Resugga Moor	2	4
512	Gt. Wh. Rough Torr Con.	2	25
1500	Great South Tolgus	2	3
100	Grogwinion	5	—
1000	Gunnis Lake	1½	3
256	Gwinear Consols	5	10½
1000	Hanson	14	3
1000	HarrowbarrowOld Mine	6½	3
800	Hawkmoor	3	2
6000	Heignston Down Con.	½	2½
256	Herodsfoot	14	12
10000	Hibernian	12½	1
—	Hobb's Hill	4	3
1000	Holmbush	18	14
256	Ivy Tor	1½	2½
827	Kirkcudbrightshire	4½	5
2048	Lamherooe Wh. Maria	9	4½
128	Lanarth & Penstruthal	190	100
2048	Lanivet Consols	4	2
200	Larkholes	1	3
160	Levant	—	90
1000	Lewis	15	10
1280	Llancynfelin	6	10
256	Lostwithiel Consols	7	7
128	Ludcott	3	3
4000	Marke Valley	10	3½
5000	Mendip Hills	2	2½
20000	Mining Co. of Ireland	7	8½
256	New East Crowndale	3½	3½
128	North Fowey Consols	25	28-30
100	North Pool	45	150
70	North Roskear	10½	350
512	North Treburget	2	3
100	North United	41	20
256	North Wh. Abraham	½	10
262	North Wh. Leisure	1½	3½
128	North Wh. Providence	2½	7
256	North Wheal Rose	26½	13
15000	Northern Coal Co.	23	2
1200	Old Delabole Slate Co.	25	50
2000	Pantdrainiog Slate Co.	2½	2½
128	Par Consols	900	1000
1024	Pembroke	1½	6
256	Penhallow Moor	15	4
4000	Pennant	1	2½
100	Penrhiw	30	65
128	Pen-y-Cefn Mine	50	55
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	98
512	Plymouth Wh. Yeoland	2½	5½-6
2048	Prince Edward	1½	1½
112	Providence Mines	35	45
256	Redruth Consols	3	10
10000	Rhymney Iron	50	30
256	Rose Consols	10	6
1000	Rosewall Hill	1	5
—	Shotts Iron Company	50	70
2500	Silver Valley	4	3½
256	Sourton Consols	3½	3
128	South Caradon	10	400-10
2000	South Dolcoath	2	2
256	Sth. Friendsh. Wh. Ann	14	14
200	South Harvannah	23	26
9000	South Tamar	½	½
256	South Tolgus	2½	20
800	South Towan	10	1½
256	South Trelawney	15½	10

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
128	South Yeoland	16½	20
128	South Wheal Basset	110	90
124	South Wh. Francis	160	228
256	South Wh. Hope	—	5
1000	South Wh. Maria	2½	2
256	South Wheal Rose	11½	1
10000	Southern&Western, Irish	2	4-5
256	St. Austell Consols	8	14
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	7
1080	Stray Park	43	25
9600	Tamar Consols	3	5½
1024	Tavy Consols	4	3
6000	Tincroft	7	10
256	Ting Tang	15	12½
128	Tokenbury	140	17½
256	Trehane	2	22
5000	Treleigh Consols	6	3½-4
256	Trenow Consols	30	40
96	Tresavean	10	200
120	Trethellan	5	35
120	Treviskey and Barrier	130	155
256	Trewollack	20	20
128	Trewelland	12	26½
6000	United Hills	5	½
100	United Mines	300	500
10240	Victoria Tin	1	1
256	Wellington Mines	15	30
128	West Basset	45	22½-5
256	West Caradon	20	160
128	West Cargoll	2	12
512	West Fowey Consols	40	35
256	West Grambler	7	8
—	West Kekewich Consols	—	3
256	West Providence	9½	20
200	West Seton	40	55
—	West of Scotland Iron Co.	155	169
120	West Trethellan	5	25
256	West United Hills	2½	6
256	West Wh. Friendship	7½	4
3845	West Wheal Jewel	11	3½
2560	West Wh. Maria	1½	1½
256	West Wheal Shepherd	5	2
256	West Wheal Tolgus	21½	6
256	West Wheal Treasury	14½	12
240	Westerlake	3	3
5200	Wicklow Copper	5	15½
184	Wheal Adams	41	30
1000	Wheal Agar	—	8
256	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	1½	4
237	Wheal Anderton	16½	32
128	Wheal Ann	—	50½
128	Wheal Arvoso	3½	6
1024	Wheal Ash	2½	12
2560	Wheal Barbara	1½	1½
256	Wheal Benny	6½	5½-6-7
256	Wheal Blencowe	8	10
256	Wheal Bucketts	20	32
256	Wheal Byon Consols	½	½
256	Wheal Calstock	3	4
136	Wheal Clifford	190	190
1024	Wheal Concord	6½	4
128	Wheal Courtenay	—	20
6000	Wheal Curtis	1½	2
256	Wheal Dyke	12	13
512	Wheal Elizabeth	2½	3
256	Wheal Fortescue	5½	10½
2048	Wheal Frederick	2	2
384	Wheal Franco	25	25
256	Wheal Gill	19½	9
1024	Wheal Grace	2	2½
128	Wheal Harriet	45	50
2048	Wheal Holwell	1½	1½
256	Wheal Jane	11	25
256	Wheal Kekewich	4	4
256	Wheal Louisa	6½	10
112	Wheal Margaret	79	200
256	Wheal Maria (Hayle)	19	30
1024	Wheal Maria	1	400
4000	Wheal Martha Consols	5	3
256	Wheal Mary Ann	5	55
1024	Wheal Mary (Calstock)	5	1
256	Wheal Mary Consols	34	25
256	Wheal Mary (Lanivet)	6½	4
256	Wheal Mary Pentuan	2½	6
256	Wheal Maude	1½	1½
128	Wheal Metha	23	92½
128	Wheal Pollard	12½	12
210	Wheal Prospect	4	13
128	Wheal Reeth	1	17
128	Wheal Rose	60	57
99	Wheal Seton	150	800
1024	Wheal Spearne	1½	8
256	Wheal Sisters	27½	22½
128	Wheal St. Ann	9	15
260	Wheal Trelawney	7½	124
256	Wheal Tremayne	35	50
128	Wheal Trew	20	21
256	Wheal Trevenna	3	4
92	Wheal Tryphena	140	150
128	Wheal Venland	12½	10
127	Wheal Virgin	50	60
256	Wheal Vlow (Perranz.)	½	½
1024	Wheal Walter	4	2
256	Wheal Williams	2	18

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	4½
15000	Asturian Mining Co.	9	6
20000	Australian	2	9½
10000	Anglo-Mexican Co.	100	1
12374	Ditto Subscription	25	2½
3000	Bolanos	150	6
2000	Ditto Scrip	15	6
12000	Brazilian Imperial	20	2½
10000	Cobre Copper Co.	40	24
8500	Colombian Co. regis.	55	} 4½
5000	Ditto Scrip	5½	}
5000	Copiapo Mining Co.	14	3½
10000	General Mining Ass'n.	20	15½
20051	Mexican Company	59	—
5000	Mocaubas & Cocaes	25	5½
29320	{ Rl. del Monte, regis. / Ditto unregistered }	28½	av. 3½
	Ditto Red Debentures	—	18
	Ditto Black ditto	—	16
	Ditto Loan Notes	150	110
1000	Royal Santiago	10	5
2000	Pachuca Mines	4	4½
11000	St. John del Rey	15	7½
13174	United Mexican	28½	3

SOUTH AUSTRALIA AND NEW ZEALAND.

— North British Australasian (Kaw-aw, &c.) .... 1 .. 1½-1¾

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, MARCH 26, 1847.

	£ s.	£ s. d.
IRON—Bar *a*..Wales..ton	8 15—	9 0 0
,, ..London ..	0 0—	10 0 0
Nail rods ,,	0 0—	10 10 0
Hoop (Staf.) ,,	0 0—	12 0 0
Sheet ,, ,,	0 0—	13 0 0
Bars ,, ,,	11 0—	11 10 0
Welsh cold-blast foundry pig	4 10—	5 10 0
Scotch pig *b*, Clyde	3 10—	3 12 6
Rails, average	9 5—	9 10 0
Russian, CCND *c*	0 0—	—
,, PSI	0 0—	—
,, Gourieff	0 0—	—
,, Archangel	0 0—	13 10 0
Swedish *d*, on the spot	11 10—	11 15 0
,, Steel, fagt.	0 0—	17 0 0
,, ,, kegs *e*	0 0—	15 0 0
COPPER—Tile *f*	0 0—	97 0 0
Tough cake	0 0—	96 0 0
Best selected	0 0	101 0 0
COPPER—Ordin. sheets, lb.	0 0—	0 0 11
,, bottoms	0 0—	0 0 12
YELLOW METAL SHEATHING	0 0—	0 0 9½
TIN—Com. blocks *g*..cwt.	0 0—	4 18 0
,, bars	0 0—	4 19 6
Refined	0 0—	5 1 0
Straits *h*	4 15—	4 17 0
Banca	5 0—	5 1 0
TIN-PLATES—Ch., IC *i*, box	1 9—	1 11 0
,, IX	1 15—	1 17 0
Coke, IC	1 6 6	1 7 0
,, IX	1 12 6	1 13 0
LEAD—Sheet *k* ..ton	0 0—	19 10 0
Pig, refined	0 0—	20 10 0
,, common	0 0—	18 15 0
,, Spanish, in bd.	0 0—	17 10 0
SPELTER—(Cake) *l* on spot	0 0—	21 0 0
,, for arrival	0 0—	20 0 0
ZINC—(Sheet) *m* export.*	27 0—	28 0 0
QUICKSILVER *n* ..lb.	0 0—	0 4 6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto. *e* In kegs ¼ and ⅜-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent. * For home use it is 32l. per ton.

IRON.—Welsh and Staffordshire continue unaltered; Scotch pig has been more in request this week, and may, consequently, be considered rather firmer, with a slight tendency upward; Swedish iron has been quiet, but stocks being low, no alteration in price can be quoted.

COPPER, ENGLISH TIN, LEAD, and TIN-PLATES, remain as last reported.—Foreign tin is very quiet—a sale of Straits has been made to-day at 98s.

SPELTER is dull of sale at quotations.

GLASGOW PIG-IRON TRADE, MARCH 25.—There is an improvement in our market within the last few days: the demand is better. There is less iron offering, and, in consequence, the price has advanced. A large part of the purchases have been for shipment to the continent. To-day, the price at which orders could be executed is—for No. 3, 70s.; for mixed Nos., 71s. 6d.; and for No. 1, 72s. 6d.—cash.

NEW YORK, MARCH 6.—About 1000 to 1200 tons of Scotch pig-iron, we learn, have changed hands this week—principally from ship, at $29 to $30 for mixed lots; and $31 to $32, six months, for No. 1, of best brands: 170 tons of common Swedes brought $86 to $87 50 c.—4 per cent. discount for cash. In English bars we hear of no transactions.

BOMBAY, FEB. 16.—Bar-iron, both Swedish and English, steady—as are also sheets and hoops; of the former we have heard a sale of 1600 bundles, in a damaged state, at 6½ rs.—Nail-rod, both square and round, in demand.—Swedish steel, in tubs and faggots, have become dull.—Lead, in pig, steady; sheets dull.—Copper, sheets and sheathing, continue steady; and we hear of 1600 cwts. having been recently imported, consisting of 1200 cwts. of the former, and 400 cwts. of the latter, and which have been sold at 60½ rs. and 58½ rs. respectively; as also 200 cwts. of files, imported with the above, have been sold at 50 rs.; and 75 cwts., that were imported previously, were sold at 50½ rs.—Nails, 20 cwts., have been sold at 48 rs., being of unsuitable sizes.—The following are the quotations of the day:—For bar-iron, English, 32 rs. to 33 rs.—Swedish, 48; Swedish steel, in tubs, 8½—faggots, at 8 to 12; sheet and hoop iron, 7¼ to 7½; nail-rod, round, 45—square, 46; nails, 12 to 14; lead, pig, 11—sheets, 12; spelter, 10½ to 10½; tin-plates, 15½; copper, braziers, 60½ to 61—sheathing, 58½ to 59—tiles, 50 to 50½—bolts, 59—bottoms, 62—nails, 55 South American, 48; red lead, 13½—white, 15; quicksilver, 90.

CALCUTTA.—The metal market has been rather more active since the date of our last issue, especially in respect to the principal imports. In copper the sales have been considerable—tile and South American have been taken for up-country supply, and the sheathing for local purposes; prices current are reported at advance. The improvement in the spelter market has progressed.—In iron, transactions have been rather confined, and sales have been effected at reduced prices.—A sale of 500 tubs of Swedish steel is reported; prices current show advance in the value of Swedish and blistered, but fall in that of British. No sale of lead is reported, but the market is firm, and prices are reported at advance.—No sale of tin-plates, nor of quicksilver, has occurred since our last issue; prices of both these imports are reported at advance.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—

Gold bars to Rotterdam	2,000	ounces.
Ditto to Hamburgh	819	,,
Gold coin to Rotterdam	4,300	,,
Ditto to Belgium	1,300	,,
Ditto to New York	1,250	,,
Ditto to Hamburgh	300	,,
Silver coin to ditto	32,000	,,
Ditto to Rotterdam	17,800	,,
Ditto to Belgium	11,500	,,
Silver bars to Hamburgh	39,000	,,
Ditto to Rotterdam	3,400	,,

COPPER ORES.

Sampled March 10, and Sold at Pearce's Hotel, Truro, March 25, 1847.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
Consolidated	120	£8 3 0	Bolenna	22	£4 14 0
ditto	102	9 5 0	ditto	20	3 10 0
ditto	91	9 3 0	ditto	11	9 5 6
ditto	90	5 4 0	Wh. Leisure	14	7 12 6
ditto	84	8 2 0	Treviskey	101	10 9 0
ditto	81	3 19 6	ditto	100	5 19 0
ditto	70	7 3 6	ditto	72	6 2 0
ditto	68	2 3 6	ditto	61	11 13 0
ditto	62	5 7 0	Trethellan	66	3 7 6
ditto	58	3 15 0	ditto	62	4 11 0
ditto	51	4 1 6	ditto	58	3 6 0
ditto	40	4 19 0	ditto	46	1 16 0
ditto	27	2 15 6	Par Consols	82	6 17 0
United Mines	105	6 17 0	ditto	74	5 13 0
ditto	104	7 12 0	ditto	52	5 11 0
ditto	103	7 4 0	Wh. Sisters	100	7 11 6
ditto	102	4 1 6	ditto	40	11 11 6
ditto	84	4 0 6	ditto	36	5 12 0
ditto	78	5 2 0	St. Aubyn	75	7 4 6
ditto	70	5 0 0	ditto	45	2 17 6
ditto	60	3 17 6	Grambler	44	5 3 6
ditto	54	6 3 6	ditto	11	17 12 0
ditto	46	3 9 0	Wh. Comfort	68	3 15 0
Tresavean	85	3 2 6	ditto	59	2 10 0
ditto	84	2 16 0	ditto	36	4 3 6
ditto	82	2 18 6	Treleigh Consols	54	12 6 6
ditto	67	5 3 6	ditto	53	4 5 6
ditto	65	4 6 0	ditto	46	4 1 6
ditto	50	5 7 6	Wh. Ellen	72	6 6 0
ditto	41	7 12 0	ditto	10	4 12 0
ditto	38	2 10 6	Ting Tang	50	4 7 6
South Caradon	105	8 19 6	ditto	27	4 6 6
ditto	103	9 6 6	Barrier	67	5 8 0
ditto	85	5 18 0	Wh. Andrew	42	5 5 6
ditto	74	6 9 6	Nangiles	15	3 15 0
ditto	41	4 12 6	ditto	6	5 17 6
Perran St. George	68	5 1 0	Wh. Clifford	46	6 1 6
ditto	66	2 19 0	ditto	15	3 10 0
ditto	54	2 16 0	Nettle's Ore	21	0 5 6
ditto	47	2 13 0	Redruth Consols	20	7 2 6
ditto	46	4 1 0	Wh. Henry	12	6 1 0
ditto	7	9 11 6	Wh. Union	10	5 5 0

TOTAL PRODUCE.

Consols	944	£5904 12 6	Wh. Comfort	163	£552 16 0
United Mines	806	4477 9 0	Treleigh Consols	153	1063 7 6
Tresavean	512	2043 4 0	Wh. Ellen	82	499 12 0
South Caradon	408	3073 2 6	Ting Tang	77	335 10 6
Perran St. George, Bolenna, Wh. Leisure }	355	1449 7 0	Barrier	67	361 16 0
			Andrew & Nangiles	63	313 1 0
			Wheal Clifford	61	331 19 0
Treviskey	334	2800 6 0	Nettle's Ore	21	5 15 6
Trethellan	232	780 10 0	Redruth Consols	20	142 10 0
Par Consols	208	1268 8 0	Wh. Henry	12	72 12 0
Wh. Sisters	176	1422 2 0	Wh. Union	10	52 10 0
Grambler&St.Aubyn	175	1092 11 0			

Average Standard .... £113 3 0 | Average Produce 7¾

Average Price per ton £5 15 0

Quantity of Ore .... 4879 tons. | Quantity of Fine Copper, 366 tons 6 cwts.

Amount of Money £28,043 1 6

LAST SALE.—Average Standard........£101 4 0.—Average Produce........ 9½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	306	£2042 12 0
English Copper	702	3776 17 3
Vivian and Sons	982	4971 12 9
Freeman and Co.	507	2786 17 6
Grenfell and Sons	684	3398 4 0
Sims, Willyams, and Co.	574	3062 3 3
Williams, Foster, and Co.	1121	7404 14 9
Total tons	4879	£28,043 1 6

Copper ores for sale on Thursday next, at Serpell's Hotel, Pool.—Mines and Parcels.—Wheal Seton 575—Camborne Vean 568—East Wheal Crofty 525—Tincroft 413—Dolcoath 326—Fowey Consols 298—South Wh. Basset 286—North Pool 247—Wheal Bucketts 200—Coudurrow 178—South Wheal Francis 163—Lanivet Consols 100—East Seton 66—East Pool 53—Tretoil 53—Hanson Mines 43—Wheal Burrow 7.—Total, 4101 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea Mines 738—Par Consols 241—United Hills 228—Wheal Prosper 224—Wheal Tremayne 138—Wheal Rodney 115—Wheal Virgin 108—West Wheal Treasury 77—North Wheal Basset 48—Trenow Consols 37—Carn Perran 27—Wheal Jane 27—Wellington Mines 26—North Wheal Abraham 20—Wheal Ruby 19—Lewis Mines 13—Wheal Caroline 9—Wheal Kayle 6—Rose-in-Vale Consols 6.—Total, 2107 tons.

COPPER ORES

Sampled March 3, and Sold at Swansea, March 25, 1847.

Mines.	Tons.	Prod.	Stand.	Price.	Mines.	Tons.	Prod.	Stand.	Price.
Cobre	96	13½	99½	£11 9 0	Cuba	95	12½	101	£10 7 6
ditto	91	13½	99½	11 4 0	ditto	99	12½	101½	10 14 0
ditto	83	13	99½	10 14 0	ditto	57	23½	99½	19 10 0
ditto	81	13½	98½	11 5 6	ditto	48	22	92½	18 3 0
ditto	78	13½	100	10 17 6	ditto	47	22	94½	16 12 0
ditto	115	12½	100½	10 11 0	ditto	44	13½	97½	10 16 0
ditto	106	12½	100½	10 10 6	Knockmahon	78	10½	104½	8 16 6
Chili	100	21½	97½	19 0 6	ditto	35	9½	106½	7 3 6
ditto	95	20½	98½	17 16 6	Kapunda	24	29½	93½	24 6 6
ditto	54	24½	95½	20 15 0	ditto	19	23½	95½	20 11 6
ditto	67	18	98	15 7 6	ditto	12	17½	100	15 0 0
ditto	52	16½	100½	14 7 6	ditto	2	21½	95	18 1 0
ditto	47	45½	90	38 11 0	ditto	41	20	98	17 7 0
ditto	42	19½	97½	16 17 0	Santiago	73	29½	89	23 15 0
ditto	24	20½	95½	17 2 6	ditto	9	14½	93½	11 10 0
ditto	12	48	91	41 15 0	Burra Burra	41	19½	95½	16 11 0
ditto	2	13½	99½	10 15 6	Montacute	36	21½	94½	18 0 0

TOTAL PRODUCE.

Cobre	650	£7096 18 6	Kapunda	98	£1501 11 6
Chili	495	9947 2 0	Santiago	82	1837 5 0
Cuba	381	5394 19 6	Burra Burra	41	678 11 0
Knockmahon	113	930 9 6	Montacute	36	646 0 0

Total tons, 1896.—Total amount, £28,246 17s. 6d.

Copper ores for sale, April 7.—Knockmahon 105, ditto 75, ditto 70, ditto 67, ditto 62, ditto 40, ditto 17.—Bearhaven 119, ditto 113, ditto 99, ditto 97.—Chili 40, ditto 46, ditto 44, ditto 26.—New Zealand 72.—Burra Burra 71.—Kapunda 66.—Ballymurtagh 36.—Lackamore 20, ditto 8.—Montacute 19.—Aberdovey 17, ditto 2.—Total tons, 1343.

[The Ticketing Paper only reaching us this morning, we are compelled to defer the purchasers until next week's Journal.]

DARTMOOR CONSOLS TIN MINING COMPANY

SHEEPSTOR, COUNTY OF DEVON.

TO BE WORKED ON THE COST-BOOK PRINCIPLE.

In 2048 shares, of £2 each.

COMMITTEE OF MANAGEMENT.

JOHN BANKES, Esq., Clapham Common, Clapham.
JOHN T. BENETT, Esq., Canonbury Cottage, Islington.
JOHN FAUL, Esq., Tavistock, Devon.
JOHN SELBY, Esq., Windsor.
R. B. SULLOCK, Esq., Teignmouth, Devon.

CONSULTING ENGINEER.

J. R. Monkhouse, Esq., 18, Charles-street, St. James's.

SOLICITORS.

Messrs. Freeman, Bothamley, and Benthall, 39, Colemam-street, London.
Messrs. Willesford and Tucker, Tavistock, Devon.

BANKERS.

Messrs. Barnett, Hoares, and Co., 62, Lombard-street, London.
Messrs. Gill and Rundle, Tavistock.

OFFICES, No. 58, LOMBARD-STREET, LONDON.

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PROSPECTUS.

The object of this company is to work effectually the Dartmoor Consolidated Tin Mines, in the parish of Sheepstor, in the county of Devon, the sett of which is very extensive—being about three miles in length and two miles in width—in the centre of a very productive mining district.

The Dartmoor Consolidated Mines were worked some years prior to January, 1844, when, on account of the extremely low price of tin, and a difficulty arising respecting the renewal of the lease, the operations were suspended, after making returns to the shareholders of upwards of £30,000.

A considerable sum has been expended in the erection of the necessary buildings for miners, and other purposes, as well as for machinery. The smelting-house is of sufficient size, and capable of smelting all the tin raised in the county. The company have the privilege of cutting turf to any extent, for the purpose of the mines and for smelting operations. It is, therefore, proposed to commence working the present lodes at once, so as to open new and deeper levels, and to extend those at present in existence—to crosscut other lodes, and effectually and economically to work the mine on the most approved principle of modern mining.

The present price of tin offers great advantages to parties investing their money in this company, especially as there is little doubt of the price of this metal increasing considerably, in consequence (among other causes) of the Great Wheal Vor Mine having been suspended, and which mine returned one-fourth of all the tin raised in England.

The sett is held under a lease from the Lord of the Manor, at a rent of £5 per annum, and at the reduced royalty of 1-20th, for a term of 21 years, from 25th Dec., 1845.

A general meeting of the proprietors will be held half-yearly, at which a full report of the company's affairs will be submitted by the committee of management.

The operations of the company are to be carried on under the "Cost-Book" principle, which exempts the company from the provisions of the Act for the Registration of Joint-Stock Companies (7 and 8 Vic., cap. 110); the 63d section of which enacts—

"Provided always, and be it enacted, That nothing in this Act contained shall extend, or be construed to extend, to any partnership formed for the working of mines, minerals, and quarries, of what nature soever, on the principle commonly called the Cost-Book principle."

Under the "Cost-Book" principle, shareholders have the right of determining their responsibility, by giving notice of their intention to relinquish their shares, and on forfeiture of all previous payments. The 21st clause states—

"That any adventurer or shareholder may determine his or her responsibility or liability, with respect to the affairs of this mine, upon his or her giving notice, in writing, to the purser of the company, for the time being, of his or her desire of retiring from the company, and also upon depositing with the said purser the share or shares held by him or her, and signing a relinquishment of all claims or demands on the company in respect to such share or shares."

The reports of the mining agents (one of which is hereunto appended) will at once show that the state of the mine will forthwith realise a liberal profit to the shareholders.

Applications for shares to be made to the committee, at the offices of the company, No. 58, Lombard-street, where prospectuses may be had—plans, specimens, reports, and rules inspected, and every information obtained; to Messrs. Willesford and Tucker, Tavistock, Devon; and to the following sharebrokers:—Messrs. Barnett and Ellis, 11, Birchin-lane; and Charles Godwin, Esq., 2, Royal Exchange-buildings, London; J. Painter and Co., 25, Castle-street, Liverpool; Messrs. Pearsons, Birmingham; R. Tripp, Esq., 12, High-street, Exeter; James Pringle, Esq., 79, Princes-street, Edinburgh; and at the Engineer's, 18, Charles-street, St. James's; also, at the office of the *Mining Journal*, 26, Fleet-street, London.

COPY OF THE REPORT OF CAPTAIN JOHN SPARGO.

According to your request, I have been to inspect this mine. I am happy to inform you, that I cannot but give a favourable report. It is my opinion, that there is not such a speculation as the Dartmoor Consols again in the county. I have no doubt, if this mine is properly managed, it will, in a short time, give good dividends to the proprietors. The shuts of tin that will be discovered after the water is in fork, will be around those two cross-courses—I have sent a rough sketch, so that you may understand my meaning. Between the caunter lode and cross-course the present engine-shaft is sunk: I cannot say the exact distance, but, I think, about 200 fathoms from the wheel. Now, from the first shaft to the cross-course is about 40 fathoms, where the ground is quite congenial for tin, there has been rich bunches of tin discovered, and the greater part taken away. I would advise you to sink this engine-shaft, as well as the eastern one; and, it is my opinion, that there will be abundance of tin discovered around those cross-courses—if so that you extend your levels to a full length, so as to intersect those runs of tin. I have had long experience of minerals and strata, and I do not recollect seeing a better tin strata than that in this mine. The strata is a beautiful decomposed granite. The capel that is to the north part of the lode is much composed of felspar, which is altogether congenial for tin. Now, to work the mine in a proper mine-like manner, you need sink both the engine-shafts 10 fathoms deeper before driving under the sheets of tin gone down under the old workings; you will bear in mind, the shaft is not sunk under the 10 fathom level. Now, after the two shafts are sunk 10 fathoms deeper, you can then drive on the course of the lode, both east and west; and I have no doubt, after so doing, you will be in a position to raise large quantities of tin; and, I think, the deeper levels will be more productive, as every surface indication tells me that the lode is not as yet in possession of its surrounding properties, as the country around the lode is full of small fibres, or droppers, dipping towards the lode, and it is impossible, according to the underlay of them, that one-half of those droppers could intersect the lode at the present depth of the mine.—Around Pryce Deacon's shaft the ground is quite congenial for tin; and, it is my opinion, that, if this mine was carried on and prosecuted in a proper mine-like manner, it would amply reward the adventurers for their outlay. By an outlay of £2000, you may put the whole of the machinery and buildings in good and sufficient repair, and sink the shaft 20 fathoms deeper, and extend the levels, so as to get tin in the market. Now, between Pryce Deacon's shaft and old engine-shaft there certainly must be abundance of tin, for the following reasons:—

1. It is seldom known where a cross-course comes in contact with the lode, that it fails from making rich bunches of tin, and especially in such a strata as decomposed granite, such as in this mine.
2. It appears that, if Pryce Deacon's shaft was sunk 20 fathoms deeper, the lode would get into a more settled country, as there is a strata of dark soft granite, much composed of blue peach, bearing down at a right angle towards the lode, which altogether strongly indicates for tin.
3. There is small fibres of wolfram (commonly called cockel by the miners) dropping towards the lode, which, of course, are feeders, and must ultimately fall into the lode in depth. I find some parts of this strata has already intersected the lode west of Widford shaft, and, at the depth of 20 fathoms, it will completely unbottom the present strata; if so, it takes its regular course.

There are two cross-courses that run through this mine; and it is my opinion, that, at the depth of 20 fathoms, they will cross the lodes in this most congenial strata. I would advise you, also, to drive east from Pryce Deacon's shaft, where you will intersect another cross-course—and at the same time drive west; and, by doing so, you will intersect another lode, where, I expect, you will discover rich bunches of tin.

I have no doubt whatever but that this mine will immediately give dividends after you extend away your levels, so as to get backs to some length, to employ sufficient hands to stope away the back, so as to keep the stamps to work.

There is a sufficient supply of water to work all the machinery necessary for the mine, which is a great advantage. I can highly recommend this mine to you and your friends—I do not know where you can find a better speculation, as a tin mine, in the two counties. I do also think, there are several other lodes in this mine that are not yet discovered, and by driving north on the cross-course would prove this, which can be done very cheap. (Signed) JOHN SPARGO.

COPY OF THE REPORT OF ASSAY OF JOHN RYAN, Esq., M.D.

The sample of "tin ore," from the "Dartmoor Consols Mine," gives, on analysis, 34 per cent. of metallic tin. You must consider this, then, as a most excellent and productive vein. (Signed) JOHN RYAN, M.D.

Laboratory, Royal Polytechnic Institution, Feb. 6, 1847.

DARTMOOR CONSOLS TIN MINING COMPANY.—Notice is hereby given, that NO FURTHER APPLICATION for SHARES will be entertained after the 3d of APRIL next.

58, Lombard-street, London, March 25, 1847.

ON THE PREVENTION OF OXIDATION OF METALS.—The complete prevention of oxidation in metals exposed to the moist atmosphere, or the action of water, is by no means an easy matter, a fact of which most practical men are well aware. Having felt the inconvenience, severely on several occasions, I have been led to adopt a simple method of coating metals, by the agency of an acid, so as to secure them most efficiently from the deteriorating influence of oxidation. The article to be coated, is first dipped in a dilute acid, composed of two parts sulphuric acid, and one nitric acid, in nine parts water. After immersion in this solution, the article is to be washed in clean water, precaution being expressly taken to avoid rubbing the metal, or touching it with the fingers. It is then to be allowed to drain; and so soon as it appears to be dry, it is to be brushed over with copal or lac varnish; the varnish attaches itself firmly to the acidulated surface of the metal, and never peels off. The best species of varnish for this purpose, is probably copal, to which is added a little litharge. I have subjected sheet-iron, thus treated, to the continued action of sea water for several months, without its sustaining any injury. It is, perhaps, worth while for shipowners to consider whether a considerable economy would not result from the application of this method to the copper sheathing of ships.

IMPROVED GAS BURNER.—The peculiar shape of the ordinary bats'-wing burner, is open to a weighty objection—namely, its ineffective light in certain positions. Thus, if the flat side of the flame is turned towards the eye, the light is full and brilliant; if, however, the edge is towards the observer, the rays directed towards him are poor and feeble. This disadvantage I have obviated by cutting a second bats'-wing, at right angles to the single one ordinarily used, so that the two sheets of flame cross each other. I find this modification answers perfectly, and the light is equally good in whatever direction it is turned. It is besides applicable where glass shades are used.—J. C. *Glasgow Mechanics' Magazine.*

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANSELL, as acting for the proprietors.

"N." (Lothbury).—We expect, in a day or two, to receive one of Dr. Clanny's improved Safety Lamps, when we shall have pleasure in showing it to our correspondent, or any one else interested, who may call at our office.

THE COST-BOOK SYSTEM.—The only information before the public, elucidatory of this system of management, has been given through our columns. Most of the papers, however, were collected together, and printed, for the Pennant Mining Company, by their intelligent secretary, Mr. Mansell, but the pamphlet has been some time out of print; from the numerous inquiries, we believe it is intended to reprint it, in a more extended form, and to be published, at a low charge, for general circulation—due notice of which will be given in the Journal.

"An Old Subscriber."—See preceding notice; also consult *Budge's Mines Agents' Guide*, and *Mitchell's Manual of Practical Assaying.*

"G. D. C." (Portsea).—We believe not; but application should be made to some respectable surgeon.

The reports of the proceedings at the meetings of Wheal Benny and Wheal Concord Mining Companies are postponed.

THE MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all the news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL
And Atmospheric Railway Gazette.

LONDON, MARCH 27, 1847.

Much of the gloom that has pervaded the commercial hemisphere during the winter, is disappearing with the opening of spring.

Indian corn has declined to near 25*s.* per quarter from the highest point; and the support given to the market for wheat is now mainly dependent on the demand from the continent.

Mr. LABOUCHERE mentioned, in the House of Commons, this week, that on Monday last there were in the Shannon 150 vessels, laden with bread-stuffs of all sorts for Limerick.

The arrivals this week at Cork and Falmouth, with grain for Great Britain, is likewise important. From the same ports abroad there are other considerable shipments on the way, independent of the most important supplies to come forward after the opening of the navigation of the American rivers, the Danube, Black Sea, and Baltic. Between this time and the next harvest, the ports of Great Britain show the prospect of being granaries, with a large surplus stock, for the supply of the extra requirements of the near continental markets; and so far as the food question has operated during the winter, disadvantageously on the general trade and prospects of the country, there appears now no real reason for further apprehension; *but the contrary.* The latest accounts are not unsatisfactory, with respect to America, as the arrivals of bread-stuffs come forward for realization in England, Scotland, and Ireland, taking in return an increased quantity over their former periodical purchases of British manufactures; and the New York advices, of the 5th inst., in reference to iron, speak of 1000 to 1200 tons Scotch pig having changed hands, principally from the ship.

When the very considerable extent of shipping belonging to the United States have arrived, with their cargoes of bread-stuffs, the effects of the decision, reported in the debates in Congress, now to hand, *that no alteration will be made in the tariff of last year*, will be more perceptible in the demand for British iron; and, to furnish return freights, an extensive business may be expected in pig and manufactured iron.

Allowing for a considerable increase in the make of iron, to bring the produce of Scotland, Staffordshire, and Wales to 2,000,000 tons per annum, with 200,000 men employed daily on railways in Great Britain at this time *doing work, at a moderate estimate, to require in one year the whole of this make*; the demand for iron, unchecked by untoward circumstances, offers the prospects of fast exceeding the make of England, Scotland, and Wales, as the extensive requirements at home and abroad more manifestly develope themselves.

The awful explosions in coal mines, which the public press has had to record, by which human life to so fearful an extent has been sacrificed, and which, within the last 20 years, have evidently increased to an alarming degree, both in quantity and extent of damage, have made the question of the most perfect mode of ventilation, one of paramount importance to the community at large. It is, therefore, at all times gratifying to find the subject taken up by men of science, who are capable of fully discussing it in all its bearings, and it is with pleasure we refer to an extract from a paper in another column, read by Mr. RICHARDSON, at the Institution of Civil Engineers, in which will be found a clear description of the causes of explosions, and, without offering any specific plan, a general elucidation of the steps which should be taken to insure every mine from these dreadful and frequent visitations. That these calamities arise from two causes in the generality of cases—viz.: insufficient ventilation, and the utter recklessness of the men, there now remains not a doubt; and it more than ever becomes the duty of every one, in the remotest degree connected with engineering science, as applied to mining, to devise plans for removing these two great evils, and endeavouring to establish the working of our collieries on something like a safe and permanent basis.

The report of the NATIONAL BRAZILIAN MINING ASSOCIATION, which will be found in another column, is of the most encouraging nature, and the ore is improving in quality—while, it is expected, the stamps will, from the last date, be kept well supplied, and the returns, consequently, increased. We also understand that her MAJESTY'S frigate *Talbot*, has brought, as part of her valuable freight, upwards of 60 marks of gold from the Cocaes Mine. The discovery in this mine is evidently now being developed; and we doubt not will prove a profitable and permanent concern.

We learn that some of the directors of the DARTMOOR CONSOLS TIN MINING COMPANY (accompanied by the secretary) have made a visit of inspection to the mines in the parish of Sheepstor. The information afforded them by their intelligent agents appears to have determined them to commence immediate operations on an extensive plan; and they have, consequently, fixed a day for the payment of the call or first instalment, nearly the whole of the shares having been taken up by most influential and enterprising gentlemen, with the expressed determination to work the productive lodes most effectually. It appears that in the year 1824 a company was formed for working this sett, with a capital of 100,000*l.*, called the Hoo Meavy Mining Company, but their progress was suspended by the panic of 1825, which proved so injurious to so many good mines (now in course of working) both in Devon and Cornwall; and a few years since, they were resumed by another company, who returned upwards of 30,000*l.* worth of tin; but a difficulty arising respecting the renewal of the lease, together with the low price of tin, the mines were abandoned. Independent of this, we are advised that the smelting department, which was carried on most extensively during the period of the last working, is to be resumed by the present company, which will be affording facilities of the greatest advantage to the locality generally.

Referring to this remarkable Tor (Sheepstor)—which is stupendous in dimensions, its base covering a space of more than 300 acres—according to ancient prophecy, is very rich in minerals of various kinds, which traditionary report has been partially verified by experiments, for tin, copper, silver, lead, iron, cobalt, china clay, and manganese, have been found to exist; prills of gold have also been found in the river and other streams below, and sufficient of that valuable substance was discovered about 16 years since by a miner, called Wellington, as to realise at Plymouth about 40*l.* In some notices on Dartmoor, already published by us, sufficient has been shown that vast quantities of tin have been raised on Dartmoor; and we, therefore, trust the energies and capital of the present company will meet that reward to which their spirit of enterprise entitles them.

We have on several occasions remarked on the value of canal property in former years, and the effect which the introduction of the railway system has had in the reduction of their shares, most of the best-paying ones having been bought by railway companies. The following is a table of the canals at present existing, independent of railways, with the dividends they pay, number of shares, and price—viz.:

Canals.	*Shares.*	*Dividend.*	*Price.*
Ashton and Oldham—average 97*l.* 18*s.* share	1766	£5 5	70
Ashby-de-la-Zouch—average 113*l.* share	1482	4 0	—
Barnsley—160*l.* share	720	12 0	180
Brecknock and Abergavenny—150*l.* shares	1085	5 0	85
Birmingham 33d share—cost 4*l.*, allocation 38*l.*	17600	4 0	88
Coventry—100*l.* share	500	25 0	—
Derby—100*l.* share	600	6 0	63
Ellesmere and Chester—average 133*l.* share	3575½	4 0	85
Erewash—100*l.* share	231	32 0	—
Grand Junction—100*l.* shares	11455	6 0	77
Glamorganshire—average cost 172*l.* 13*s.* 4*d.*	600	13 12 8	—
Grantham—150*l.* share	749	12 0	—
Kennet and Avon—average 39*l.* 18*s.* 10*d.*	25338	0 7 6	5
Leeds and Liverpool—100*l.* shares	2807½	34 0	520
Leicester—140*l.* share	5454	10 0	75
Leicester and Northampton—average 83*l.* 10*s.*	1897	4 0	36
Loughborough—average 142*l.* 17*s.* share	70	79 0	830
Monmouthshire—100*l.* shares	2409	8 0	—
Montgomeryshire—100*l.* share	700	5 0	—
Melton Mowbray—100*l.* share	250	10 0	—
Neath—100*l.* share	247	20 0	340
Oxford—100*l.* share	1786	20 0	200
Peak Forest—average about 78*l.* share	2400	3 0	40
Rochdale	5669	4 0	54
Regent's (or London)—average 33*l.* 16*s.* 8*d.* share	21418	1 4	19–18
Somerset Coal—150*l.* share	800	7 10	130
Ditto Lock Fund Stock—12*l.* 10*s.* share	36000	6 0	—
Stafford and Worcester—140*l.* share	700	28 0	275
Shrewsbury—125*l.* share	500	15 0	—
Stourbridge—145 share	300	20 0	305
Severn and Wye and Railway—aver. 20*l.* 9*s.* 3*d.* sh.	3762	1 8	—
Warwick and Birmingham—aver. 100*l.* sh. 1000 sh.	1000½	5 0	68
Warwick and Napton—100*l.* share	980	—	46
Worcester and Birmingham—average 78*l.* 8*s.* share	6000	2 0	—
Wilts and Berks—average 67*l.* 10*s.* 8*d.* share	5000	1 0	11

From the above, it will be seen there are only eight at a premium, and that not in proportion to the dividend paid—for instance, the Barnsley, paying 12*l.* per cent. dividend, is only at a premium of 20*l.* on a 160*l.* share; the Leeds and Liverpool, paying 34*l.* per cent., is now worth in the market only 520*l.* for a 100*l.* share; the Loughborough, 70*l.* per cent., is under 400*l.* premium; the Neath, 20*l.* per cent., 240*l.* premium; the Oxford, 20*l.* per cent., only 100*l.* premium; the Stafford and Worcester, 28*l.* per cent., only 135*l.* premium; the Stourbridge, 20*l.* per cent., 165*l.* premium. The anomalies here presented, are, doubtless, attributable to the vicinity of a railway, or otherwise, as appears likely to affect their local carrying trade; but it seems probable, that eventually canals must become the property of the railway companies, or submit to that competition, which will end in their common ruin.

THE SLATE TRADE.—The vast increase in the demand for slate, for various architectural and domestic purposes, to which they have only been applied in comparatively a few years, has led to the development of numerous new quarries in North Wales, Ireland, and Scotland; and we last week noticed the formation of a company for working the Coombe Valley Quarry, in the parish of St. Ginnes, in the county of Cornwall, notwithstanding the prejudice which has hitherto existed against Cornish slate, from its extra weight, and from its peculiar and unpleasing colour. The superior quality and colour of the Bangor slate, and, indeed, that from Merioneth and Cardiganshires, in general, is well known; while the principal portion of that from Cornwall, sent to the London market, has been from the old Delabole Quarry, which, though an excellent slate, has the general objection as to colour. We shall, however, endeavour to explain the quality and uses to which they can be best be applied, of the various kinds and colours; and, as Cornwall is now found to produce most of them, a considerable increase in the slate trade of the county may be expected. At the present time, when all our slate quarries cannot supply the demand, and when the price, during the past year, has advanced 30 per cent., a general description of the several qualities will be interesting. The old Delabole, and, indeed, the greatest quantity found in Cornwall, is the "grey green;" this slate is laminated sufficiently fine to admit of being cleft into roofing slates, of all sizes, in common use, and is exceedingly strong. When used for roofing, and style is a consideration, it is best adapted for ecclesiastical edifices, and rusticated stone villas. In slabs, it is, from its great strength, the very best, particularly for pavements, floors, railway stations, lintels, cantilevers, and other work where great resistance is required. The "light blue green" is best adapted for entrance halls, stair-cases, and other works; when the slate is exposed, as being of a light colour, it has a more pleasing appearance, and does not show the condensed vapours like the darker. The "speckled" is not so finely laminated as the former-named kinds, but being excessively hard, and containing veins of iron and nodules of mundic, is best suited for street paving, where it is capable of withstanding a greater amount of friction than any other kind, and consequently wears a much longer time; but it should on no account be used in a thin form, as for roofing, as its susceptibility to oxidise causes its rapid decomposition. The "dull blue red:" this, the sooner it is given to the spoil heap the better, as it is totally unfit for any permanent purpose. The "white," or "yellow-emerald-green," is of great use in ornamental purposes; and in none does it show itself off to greater advantage than in tesselated pavements, where, when mixed with black and light blue, it possesses a most pleasing appearance, and, in point of architectural style, a positive original effect. Mr. Magnus, the slate merchant, of Pimlico, has constructed a most beautifully designed tesselated pavement, with these descriptions of slate. The "blue" is at present the produce of Wales, near Bangor and Portmadoc, and are of various kinds, but nearly all possess what is most important to the builder—viz., lightness, smoothness of cleavage, uniformity of thickness, great resistance to the atmosphere, and a pleasing appearance. The domestic and trading uses to which this kind is applied are almost innumerable. We have thus given a general outline of the several kinds of slate hitherto discovered, and which will, probably, not only prove interesting, but useful, to our readers.

WHEAL ROSE SILVER-LEAD ORE.—The *Ellen*, of Plymouth, arrived this week in the River Thames with, it is supposed, about 100 tons of silver-lead ore, the produce of this mine, consigned to Mullins Brothers and Co., smelters, London. This mine, situated near Helston, West Cornwall, seems very promising.

RIVER THAMES—SILVER-LEAD ORE.—Two parcels of ore from Wheal Adams have this week been discharged in the river from a vessel sailing from Teignmouth, consigned to Mullins Brothers and Co., smelters, Battersea, London. One of the parcels appeared to be a kind of silver gossan.

Mr. Jacob Brett had the honour of submitting his electric printing telegraph on Tuesday, at Buckingham Palace, to the inspection of his Royal Highness Prince Albert, who, on seeing the rapidity and certainty with which the telegraph printed in coloured and black letter, was pleased to express his approbation at its simplicity and ingenuity.

PREPARATION OF PERSULPHATE OF IRON FOR CALICO PRINTING.—I have succeeded in producing persulphate of iron by a very simple and much more economical process than that generally adopted, the details of which I here lay before you. I take a quantity of protosulphate of iron (green copperas), and add to it a little powdered nitrate of soda, which when well mixed, I ignite in a crucible. The persulphate of iron thus obtained is not chemically pure, as it contains a slight quantity of nitrate, but it is sufficiently so for all ordinary purposes in dyeing, calico printing, &c., where it is now regularly applied with good results. This is, perhaps, the cheapest mode of manufacturing this salt; and, moreover, it answers well, either on a large or small scale.—M. D'ORVILLE: *Glasgow Mechanics' Magazine.*

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

That indefatigable and most able man, M. Leon Faucher, has just run another tilt at the unhappy protectionists; and, as usual, has sent them sprawling in the dust, with sore bruises and aching limbs. The unfortunate wights, it appears, had the strange infatuation to publish a manifesto, in which they employed the best arguments their poor wits could devise, and piled up as many falsehoods (they called them facts) as their poor ingenuity could concoct, in defence of the hateful system of monopoly, and its twin sister, protection. M. Faucher takes in hand this famous manifesto, and demolishes its arguments and pretended facts in the most complete and unanswerable manner. It is with deep regret, that I find its great length renders it impossible to send you a full translation of his most excellent essay, or even to notice in detail what he says as to the effects of protection on agriculture, on the linen, cotton, and other branches of industry. I can only quote a few figures relative to the coal and iron monopolies; but I earnestly entreat your friends of the *Moniteur Industriel*, to read, and study with attention, the whole of M. Faucher's able treatise. One would think that it would open even their eyes, if any thing on earth could, to the atrocious iniquity of the system they defend; and, at all events, they cannot fail to find its brilliant style a great relief to the perusal of the dreary twaddle of their protectionist clients.

The great argument of the manifesto gentlemen, is that the production of coal and iron has increased in France under the protective system; and that, therefore, protection should be maintained. But M. Faucher asks, if the increase has taken place in consequence, or in spite, of protection; and he then shows, that the increase has been nothing like what it ought to have been, as compared with that of other countries. "Without doubt," he says, with respect to coal, "the extraction which is wrongly called the production of coal, is more considerable than it was, but the increase has been still greater abroad. In 1824, our mines yielded 13,000,000 metrical quintals, and we imported not quite 4,500,000 from abroad. In 1844, the production was not up to 38,000,000 metrical quintals, but the importation exceeded 17,000,000. Thus the foreign coal, which was employed in our consumption, was in the proportion of 23 per cent., and is now 31. The extraction of coal in the United Kingdom, is about eight times greater than that of France, being upwards of 300,000,000 metrical quintals." Further on he says: "The manifesto congratulates itself on the price of a metrical quintal of coal having fallen 20 per cent. But what does that matter, if the extractors still make profits, which are absurd from their enormity—if the consumer is still obliged to give 1 fr., or 1 fr. 20 c. for what is scarcely worth half that sum? The cost of conveyance is the greater part of the selling price of coal; why, then, oblige by tariffs the inhabitants of maritime towns to consume native coal, which only reaches them surcharged with cost? Coal is the bread of industry. A people who gives part of what it possesses to its neighbours, gives them a part of its strength. I can understand, that for a political interest, Sir Robert Peel once thought of placing a heavy export duty on the exportation of English coal; but I cannot understand that our Government limits, or prevents altogether, the importation of this coal, which feeds our industry." With respect to iron, M. Faucher says: "Metallurgic industry has certainly increased its means of production within the last 30 years. In 1816, our furnaces only turned out about 1,000,000 metrical quintals of cast-iron; in 1824, they fabricated nearly 2,000,000 quintals; and in 1844, the production exceeded 4,000,000. Our ironmasters consider this progress rapid; but all that I can say for the moment is, that it has not kept pace with our wants. In 1839, a little country like Belgium, produced 1,350,000 metrical quintals of cast-iron; and as to England, which in 1796, some years after the discovery of the treatment by coke, counted 121 furnaces, yielding about 1,300,000 metrical quintals of cast-iron, she had, in 1840, carried her production up to more than 14,000,000. The consequence has been, that the use of iron in different applications of industry is more common in England than elsewhere. In civil constructions, in naval architecture, in ways of communication—in almost every thing it is employed. The wonderful era of railways corresponds in like effect to the cause, with the development of metallurgic industry. The tariff, which weighs upon, or stops, the introduction of iron and cast-iron, is monstrous. Our adversaries do not dispute the absolutely prohibitive character of this legislation; but they pretend, as if the audacity of such an assertion could deceive people, with respect to the real facts, that iron is cheap in France. 'From 1835 to 1845 (says their manifesto) the price of iron has fallen 33 per cent.' How do they prove it? 'The first great railway constructed in France, that of St. Etienne (say they), could not obtain its rails for less than 520 fr. (20*l.* 16s.) the ton of 1000 kilogrammes (the kilogramme is about 2 lbs. English); in 1837, the St. Germain Railway Company paid, including conveyance, 425 fr.; in 1839 and 1841, the Orleans and Rouen lines paid 395 fr. to 405 fr.; in 1843, the railways from Montpellier to Nismes, of Dijon, and of Havre, paid 340 fr. to 347 fr.; and, in 1844, the railways of Avignon, of Veirzon, and of Tours, paid 320 fr. to 325 fr.—so that the gradual reduction effected in the period, from 1837 to 1844, is 25 per cent. It is true that, in 1845 and 1846, the *price has risen*; the supply of all the great line of Lyons was taken at 365 fr. and 372½ fr.—that of the Strasburg line, at 350 fr. and 370 fr.; but the price has not risen for any line to more than 385 fr. The Dieppe Company has really treated at the price of 395 fr.—that is to say, that it is still 10 per cent. beneath the price of 1837.' What becomes, then, of this diminution of 33 per cent. that was first stated? Our adversaries themselves admit that it had fallen to 10 per cent. on the prices of 1837. I will go further; and I affirm, that this pretended reduction is only a fable—nothing more than an argument—invented for the wants of the cause. The prices are now what they were in 1827—what they were in 1817. We pay for iron, after having protected the national furnaces for more than 30 years, as dear as at the time at which the protection was established. Even at this present time, the price of iron varies from 38 to 40 fr. the metrical quintal; and cast-iron, which is sold from 9 to 10 fr. in England, sells here from 20 to 21 fr. At this price, the use of iron is excluded from agriculture; railways become impossible or ruinous; mechanical industry sees its *débouchés* closed or restrained; and it cannot be said that this excessive price of iron arises from temporary circumstances. Iron descended for a moment in 1844 and 1845 to moderate prices; but it was only for a moment. In the iron trade in France, dearness has always been the rule, and cheapness the exception. In England, iron, like every other merchandise, follows the oscillations of high and low, caused by the variations in the demand and the supply—it has risen from 120 fr. to 300 fr. the ton; and costs, at present, 240 fr. In France, variations are impossible—the producer being always in a position to dictate the law to the consumer; and not only are iron, cast-iron, and steel, excessively dear, but the market is not supplied. Without reproducing here facts that I have already quoted, it will be sufficient to remind the reader, that the delays of the ironmasters in executing their orders, have delayed for a whole year the opening of the atmospheric railway—have compromised the safety and the regularity of the working of the Northern Railway—and have prevented the construction of steam-boats. It is calculated that the tax levied by the ironmasters on other branches of industry, amounts to 30,000,000 fr. per annum; but the losses they have caused the French nation to sustain, by stopping or delaying the progress of industry, are certainly incalculable. The ironmasters promise that we shall have cheapness in a course of a few years; but we have been promised the same thing so often, and even by Ministers themselves, that there is no believing it. There is a talk of the projected creation of 30 or 40 furnaces, to be fed by coal; and it is said that their competition will certainly cause a decline in the price of iron. If that be so—if the enormous profits realised by the ironmasters shall cause a superabundant production—if the trade in iron be about to give us the same spectacle as that in beet-root sugar—I do not consider it a desirable progress. What we should wish for is cheapness, as a consequence of the perfectionments acquired by industry, or a consequence of free-trade; but if it comes from a factitious excitation, which often brings deception and ruin to the producer, the consumer cannot console himself with a profit which is certain not to endure. In the meanwhile, the ironmasters have discounted the future to the profit of their privilege. Railways offered them a rich prey—they have seized it; and most of them have obtained orders which will save them, for four years at least, from the consequences of a reduction in the tariffs."

Thus far M. Leon Faucher—but I cannot conclude these too brief extracts, without again expressing my deep regret at not being able to give the whole of his admirable article. I have read a great deal, both *pro* and *con.* on the protection question—but never, in a narrow compass, did I see such a mass of crushing facts, set forth in such a plain, practical, and brilliant style, as in this lucubration. If such matters were decided by reason, the protective system could not possibly survive M. Leon Faucher's last onslaught. "It must have thrown the *Moniteur Industriel*, and its patrons, into the deepest despair.

The importation of cast-iron, during the month of Feb. last, amounted to 78,182 metrical quintals; of coal, to 1,403,313 metrical quintals. In both there is a great increase, compared with the corresponding months of 1846 and 1845.

The Minister of Commerce has declared, by royal ordinance, that the Custom-house Bureau, of Sapogne (Ardennes), shall be opened for the importation of *fers traités au bois* and *au marteau*, on payment of the duties established by the law of 1814. Just observe those last words—"established by the *law of* 1814!" From 1814, to 1847, is 33 years; and during that time, no alteration in the import duties on iron has been made, notwithstanding the increased demand for it, and the increased production. The mere existence for so long a period of the same duties on such an article is a scandalous shame.

Advertisements, for the supply of several million kilogrammes of coal, and several thousand kilogrammes of lead, are put forth by the Marine and War Department.

The coal company of Pont de Loup Sud, will hold a general meeting, in Paris, on the 5th of April. This is one of the many coal companies of Belgium, in which Frenchmen are the principal or exclusive shareholders.

In one of your recent Belgian letters it was stated, that the Vieille Montagne Company intended to effect a very considerable reduction in the prices of zinc sold at Paris. It has already begun to carry this design into effect. Its sales are now made at a reduction of 10 per cent. on previous prices. This reduction will, no doubt, cause zinc to come into more general use than it is now, although even now it is very extensively employed. Almost every new house that is built is covered with it, and it has just begun to be used for the manufacture of out-door ornaments, such as statues, fountains, &c., being an admirable substitute for bronze.

A Lyons letter mentions, that dissatisfaction exists in that city, and the neighbourhood, at the removal to Paris of the principal managing office of the Compagnie Generale des Houilles de la Loire. The Lyons people believe, that it is impossible that the affairs of the company can be managed as they ought to be, with the chief office at such a great distance from the scene of operations.

A meeting of the Company of the Mines de Chaney Saint Etienne, is called for the 20th of May, in Paris. It will then be determined, I understand, to dissolve the company, as the preparatory step to its fusion with the great amalgamated companies of the Loire. Its capital is 2,000,000 fr., and its shares are at a premium.

The Havre Railway was formally inaugurated on Saturday, and the next day was opened for traffic. Every person who has passed over the line, is lond in expressing his admiration at the manner in which the great engineering difficulties have been overcome, and at the boldness and elegance of all the works. They will be a lasting monument to the talent of Mr. Locke, the engineer, and to the enterprise of our countrymen.

Paris, Wednesday.

BELGIUM.—The Namur and Liege Railway Company advertises that it will allow 5 per cent. per annum on all calls that may be paid in advance up to 28th January next.

The Company of the Coal-pits of Grand Hornu has increased the pay of its men, in consequence of the dearness of food.

The Minister of War has authorised the cannon foundry at Liege to manufacture two cannons of 60 for the Dutch Government, and 18 cannons of 18, and 12 cannons of 12, for the Grand Duchy of Baden-Baden. The total weight of metal thus employed will be 6537 kilogrammes. It is worthy of remark, that orders sent by foreign governments to the foundry at Liege are continually increasing. It was only a little while ago, that England had a monopoly of such orders, and I should think our Birmingham manufacturers might easily have contrived to have kept it. True, the loss of orders for a few hundred cannon per annum is no great thing; but it is worth keeping, nevertheless, especially in these times of keen competition.—The Company of the Louvain à la Sambre Railway advertises, that it will receive offers of contract for the supply of some considerable quantities of rails, up to the 31st inst.

The Company of the Coal-pits of Abboz, at Viveguis, have obtained from the Government concessions of coal-pits lying under the communes of Viveguis and Herstat, in the province of Liege, of an extent of 235 hectares. They are bound, by the conditions of the grant, to work the pits to a depth of about 375 metres; leaving between the *gravier* of Meuse, and the sections which are worked, a mass of 150 metres, which is not to be touched until the rest of the mine shall be exhausted. They are so to work the pits, as to be able always to supply the demands of the public; and they must obey the directions of the Government engineers, with respect to the airing, &c., of the mines, and the safety and health of the men.

The Government has authorised the company, possessing the Mines of Benne-sans-fosse, to unite its concession, and part of the concession of the Mines of Bascoup, which it has purchased, with the concession of the Company of Cancelles Nord.

The Valentine Coq Company (coal and zinc) will hold a general meeting at Liege, on the 15th April.

Among the new companies recently formed, is one under the title of the Compagnie des hauts fourneaux, fonderies, laminoirs, et forges de Gougnies, for working the furnaces, &c., already established at Gougnies near Charleroi, and for the extraction of iron ore. The company is constituted for 25 years, with a capital of 1,800,000 fr., divided into 1800 shares, all of which are already subscribed.—*Brussels, March* 23.

THE MINES OF PRUSSIA.—A very interesting report on the mining produce of Prussia, has just been published by the Government; from which it appears, that the number of persons employed in the mines is upwards of 100,000, and the annual value of the ores exceeds 40,000,000 thalers. The quantity of coal is increasing every year; but from the expense of conveyance to Berlin, English coal is sold at a cheaper rate in that capital, and is chiefly employed by the numerous factories in the vicinity. English coke is also employed for the locomotives on the Prussian railways. The expense of land and water transit from the mines is most ruinous to enterprise, and renders it impossible for the iron and steel forges to compete with those of England.

FORESTS AND MINERALS OF CORSICA.—This island, which is a department of France, is not only rich in minerals, but contains very extensive forests, to enable them to be worked with economy; hitherto bad roads, and a deficiency of labour, have prevented their development. It now appears, the Government will shortly announce that a great portion of the forests will be allotted to companies and individuals, who choose to speculate, on very favourable terms. The iron ore produces, it is said, a metal equal to the Swedish, while coal, lead, copper, and other minerals, are plentiful in the island. Several French companies, and capitalists, are quite alive on the subject.

IMPROVEMENTS IN THE MANUFACTURE OF IRON.—We are informed that Mr. F. C. Wrightson (for some time connected with the Museum of Economic Geology, engaged in the Admiralty coal investigation, and other scientific inquiries) is about to establish in Birmingham a chemical laboratory, for the investigation and improvement of the manufacturing processes of the district—in fact (according to our informant), "devoting himself, for some years, to what may be considered an important national object—attempting the improvement of our iron manufacture; as, before analyses of iron ores can become of *much* value, a *complete series* of thoroughly-accurate analyses of the different varieties and qualities of cast-iron must be performed, and the different conditions under which each sample has been obtained minutely noted. We shall then be prepared to institute a like series of analyses of iron stones and ores, as well as of the materials with which they are worked. Not until this has been effected, is it *possible* that the most accomplished, theoretical, and practical chemist can lay down a plan for working any ore, so as to obtain the *best* iron in the most economical manner—but once in possession of these data, and he is in a position to apply his knowledge of chemical laws. Analysis is to the chemist, in some degree, as a dictionary is to the learner of a language; for, by finding the value of constituent parts, he is enabled *truly* to interpret phenomena. Analytical science has made such progress within the last few years, that we have everything to hope from its extended application. Mr. Wrightson goes to Birmingham well recommended for competence by celebrated chemists, including Profs. Liebig, Bunsen, Graham, Hoffman, and Playfair; and we hope he will meet with the success that should attend the desirable object he has in view. We have pleasure in adding, that we believe our columns will be the medium of communicating many papers, on the above subject, to the scientific world, from the pen of Mr. Wrightson.

MINING IN CANADA.

We have before us the report of the agent of the Montreal Mining Company, of the results of an exploring expedition on the northern shore of Lake Superior, for the purpose of selecting and locating mineral lands, under the authority of licenses granted by Government—which expedition occupied upwards of six months, and from which it appears that the body of the lake occupies about 36,000 square miles, while its margin presents to the geologist the sublime spectacle of having been in ages far remote one vast laboratory for the fabrication of metalliferous veins. The stratified rocks around the lake, dip towards its centre at an angle varying from 5° to 45°—while at right angles to the coast may be seen radiating numerous spar veins, generally vertical, and on a scale as gigantic as the lake itself. These veins cut boldly through a system of powerful trap dikes, of older date, which traverse the country, showing the more modern origin of the veins, and an apparent powerful galvanic influence in the deposition of various metals at different points. The stratified rocks soon give place to a scene of violent disturbance and powerful eruptive agency, by which numerous fissures have been produced, and which are filled with sparry matter, containing in many places copper ore. The veins are composed chiefly of calcareous spar, ianmonite, fluor-spar, amethystine quartz, and sulphate of barytes. Their accompanying minerals are prehnite, stilbite, datholite, analecine, and steatite—the latter occupying the sides of the veins, and greatly facilitating the excavation, especially in the amygdaloydal trap. These veins are often richly loaded with mundic, gossan, &c.; and in their numerous vughs and cavities are found native copper and silver, green and blue carbonate of copper, yellow sulphuret, and more abundant than all, the horseflesh and rich grey sulphurets. Another great feature on the British side of the lake is, that it presents upon the coast a highly-elevated region, with spontaneous drainage so fortunately indented with bays, and clustered with islands, as to afford the most desirable of harbours and the safest anchorage. In a geological sense, the age of the rocks is yet uncertain; a few fucoids have been found in the lower shales, almost indistinct sigillaria, &c., in the jaspideous schists of the conglomerates; but not sufficient to identity any particular period. The amygdules in the amygdaloydal trap consist of agates, cornelians, &c., which often give place to chlorite, steatite, carbonate of lime, quartz, and native copper. The hills rise from the height of a few yards to that of 1000 ft. The rivers flow from the interior in torrents to the lake, affording numerous mill sites; and the soil on the trap is rich and fertile, sustaining a dense growth of spruce, fir, cedar, larch, white birch, poplar, and pine, apparently sufficient for all building and mining purposes. This is a highly-favourable report; and it appears that, during the season of 1846, 180 square miles have been selected, and located in separate tracts, each measuring two miles along the shore of the lake by five miles in depth. In several of these 18 tracts, explorations have been made for mining purposes, and the indications are everywhere of the most promising nature. On one, situated at the extremity of Point Porphyry, is one of the finest harbours on the lake, at which place a wharf has been built—so that a steamer or sailing vessel may come alongside and discharge her cargo with ease and expedition. The report, altogether, is encouraging to emigrants to this part of Canada; the entire of the land of the company is rapidly undergoing complete survey, and appears calculated, in an eminent degree, both for agricultural and mining purposes.

PRODUCE OF THE GOLD MINES IN OREL AND SIBERIA.

We are indebted to Mr. Frederick Scheer, of Adam's-court, Old Broad-street, for the following interesting information respecting the gold mines of Siberia, which he has just received from official sources in Russia:—

Of the quantity of gold worked in 1846 in the Crown mines, and in the mines in Orel and Siberia, the Mint has received to this date (6th of Feb., 1847) 1397 poods 15 liv. 13 zol., to which must be added 325 poods 14 liv. 74 zol. expected during the winter—thereby making the total production of gold in 1846 amount to 1722 poods 29 liv. 87 zol.

Formerly, gold was only worked in the district of the mines of Catherineburg, belonging to the Crown, in the mines of Bérézoff, and in the district of the mines of Kolyvano-Voskressensk and of Nertchinsk, and was extracted from silver, which was worked in those mines—the whole quantity extracted annually amounted to but 34 to 40 poods.

In 1819, some veins of golden sand were discovered in Orel. Since then, the production of this precious metal has increased in the following proportions:—in 1819, 40 poods 9 liv. 55 zol.; in 1820, 44 poods 3 liv.; in 1821, 52 poods 24 liv. 85 zol.; in 1822, 79 poods 21 liv. 36 zol.; in 1823, 125 poods 19 liv. 79 zol.; in 1824, 228 poods 13 liv. 38 zol.; in 1825, 257 poods 12 liv. 54 zol.; in 1826, 257 poods 25 liv. 15 zol.; in 1827, 307 poods 30 liv. 95 zol.; in 1828, 317 poods 39 liv. 44 zol.—making a total of 1711 poods 21 zol.

It was in 1829 that some veins of golden sand were also discovered in Siberia. At first, the working of it was not very productive; but after a while, and more especially during the last six years, the results have been very brilliant, as the following figures will prove:—In 1829, 314 poods 31 liv. 1 zol.; in 1830, 378 poods 15 liv. 79 zol.; in 1831, 396 poods 29 liv. 37 zol.; in 1832, 410 poods 8 liv. 61 zol.; in 1833, 408 poods 22 liv. 71 zol.; in 1834, 406 poods 4 liv. 64 zol.; in 1835, 413 poods 1 liv. 8 zol.; in 1836, 426 poods 3 liv. 74 zol.; in 1837, 469 poods 20 liv. 75 zol.; in 1838, 524 poods 36 liv. 69 zol.; in 1839, 525 poods 6 liv. 38 zol.; in 1840, 585 poods 15 liv. 60 zol.; in 1841, 681 poods 20 liv. 34 zol.; in 1842, 950 poods 26 liv. 68 zol.; in 1843, 1283 poods 2 liv. 60 zol.; in 1844, 1341 poods 25 liv. 60 zol.; in 1845, 1386 poods 6 liv. 41 zol.; and in 1846, 1722 poods 29 liv. 87 zol.—making a total of 12,624 poods 28 liv. 24 zol. Thus, since the discovery of the golden sand—that is to say, since 1819—the working of the gold, both in Orel and Siberia, has produced 14,335 poods 28 liv. 45 zol. of this precious metal, of which the Crown mines in Orel have contributed 2924 poods 24 liv. 32 zol.; those in Siberia, 1293 poods 7 liv. 28 zol.; the private mines in Orel, 4219 poods 39 liv. 70 zol.; and those in Siberia, 5897 poods 37 liv. 11 zol.

The produce of the year 1846, which, as before stated, amounts to 1722 poods 29 liv. 87 zol., forms more than a tenth of the whole quantity of gold worked since 1819, and surpasses by 336 poods 28 liv. 46 zol. the result of the working of this metal in 1845.

The following calculations will show the value of the above produce, estimating the gold as standard, and the price at the buying price of the Bank of England—that is, 77s. 9d. per oz.:—

	Pds. liv. sol.	Equal ozs. Troy	Val. at 77s 9d p. oz.
Yield in 1846	1722 29 87	907,284	£3,527,066
Yield from 1819 (the period when some veins of golden sand were discovered in Orel) to 1828, inclusive	1711 0 21	901,101	£3,503,029
Yield from 1829 (when a discovery was made in Siberia) to 1846, inclusive	12624 28 24	6,648,801	25,847,215
Total	14335 28 45	7,549,902	£29,350,244

DISCOVERY OF COPPER IN NEW SOUTH WALES.—By the Overland Mail, intelligence has arrived from this colony to Nov. 28, about two months later than the last direct advices: the following is an extract from a letter, received by a respectable firm in the City, relating to the discovery of a copper mine in the territory of New South Wales. So many copper mines have been discovered of late, that our era runs some risk of being called the copper age. Wellington, the site of the mine, is on the western declivity of the great mountain range which intersects the colony, about 200 miles north-west of Sydney:—"A copper mine, in a well-wooded district, has been found near Wellington. A bill to work it has been obtained from the council, and a company is being established to carry on the operations, and to smelt it on the spot. Experiments, on a large scale, have been made to prove this practicable and profitable. There are about 2000 tons of surface ore, yielding, by rough furnace smelting, 16 per cent. These rough furnaces smelt about 4 cwts. copper a day."

NEW MINING SHARE MARKET.—Another institution for the sale of mining shares, has just been established by Messrs. Crossman, Sommers, and Co., in Threadneedle-street, under the title of "THE MINING ADVENTURERS' SUBSCRIPTION ROOM." In this undertaking, the promoters profess to abstain from all trading or jobbing in shares themselves, only to sell for others; to register, and submit such register for inspection to all applicants; to receive one uniform rate of commission; to receive, and lay open for inspection, reports from the several mines; and to quote the prices registered in the *Mining Journal*. All these are very fair proposals, and we doubt not, if fairly carried out, a business may be established. The annual subscription is to be one guinea, and for further particulars we refer to our advertising columns.

Original Correspondence.

HYPOTHESES ON IRON.

Sir,—I should wish "Ferreus" to point out to me the assertion he says I have made—viz.: "That oxidized substances are metallised in contact with the air." I have stated, that deoxidation takes place in the blast-furnace, where free oxygen exists, whenever the amount of oxygen thrown into the furnace exceeds that which can be taken up by the materials consumed; and I still affirm, that the clay is deoxidated by the lime in a blast-furnace, though not in contact with the free oxygen, which is abundant in all blast-furnaces. I shall once more incur the [illegible] of subjecting myself to the sarcasm of "Ferreus," upon my u[illegible] *sesquipedalia verba*, knowing that he only writes *ironically*; and that his own *verba*, so far from possessing sesquipedalian substantially, have not a single foot left to stand upon. The fused matter, which forms the slag of the blast-furnace, drops, as "Ferreus" may, perhaps, allow, into the crucible, or hearth, and it then forms a molten mass of intensely-heated matter, the upper surface of which alone is in any way exposed to the oxygen entering at the tuyeres; all beneath that surface is completely and perfectly shielded from the access of oxygen from the atmosphere. This mass of fused matter is composed chiefly of three ingredients—silica, protoxide of calcium, and sesqui-oxide of aluminum; and the result of the cementation thus promoted is, that the protoxide of calcium absorbs oxygen from the sesqui-oxide of aluminum, and is converted into peroxide of calcium; whilst the sesqui-oxide of aluminum, by yielding up a portion of its oxygen, is converted into protoxide of aluminum, and in these forms are calcium and aluminum found to exist in the slag of the blast-furnace. When this is pulverised, and thrown into water, the protoxide of aluminum is at once oxidised, by decomposing a portion of the water, and reconverted into sesqui-oxide, whilst hydrogen gas is disengaged; the peroxide of calcium forms a hydrate Ca. $0_2 + 6$ aq. Thus, by help of the *veil* of melted slag in the blast-furnace, and that of the *veil of carbonic oxide* in the puddling-furnace, I have accounted for the seeming paradox of deoxidation taking place *almost* in contact with atmospheric air, or oxygen. White iron is a combination, in definite proportions, of pure iron and carbon; and this compound, when alloyed with pure iron, produces the malleable iron of commerce, and the various qualities of steel, according as the quantity of pure iron, thus added in alloy, is greater or lesser. When, again, white iron is alloyed with carbon, grey iron is obtained, and the alloy of carbon may be increased, until the compound thus formed approaches nearly to pure graphite in its appearance and characteristics. Pure graphite is, however, I believe, a definite chemical compound of carbon with iron, but in what proportions their combination is effected, I have not yet been able to ascertain. It does not follow, that keesh, because it is lighter than the melted iron, should rise to the surface of the latter. When aqueous vapour exists in the atmosphere in a state of exceeding comminution, as respects its component particles, it does not descend, although each particle possesses a greater specific gravity than the fluid medium of air in which it is suspended; so, in like manner, the minute particles of keesh do not ascend through the fluid iron, though they are each specifically lighter than the medium in which they are retained—but, when an aggregation of these particles takes place, a mass is formed, which rises as a flake of keesh to the surface of the melted iron. In mottled iron, it may be observed, that the dots, or specks, of keesh, or carbon, are more numerous upon the lower than upon the upper side of the casting; and this arises not from the sinking of the particles to the bottom, but from the deflagration of many of those particles near the surface from exposure to the oxygen of the atmosphere. "Ferreus" accuses me of habitual animadversions upon British ironmasters. Now, I have only attacked the iron, and not its manufacturers; and, whilst I assent to the truth of these ironmasters supplying the globe with their raw and manufactured produce, I still bear in mind, that Sweden and Russia supply England with the only species of iron, which, under every trial to which it can be subjected, still maintains its invariable character of excellence. I know not if "Ferreus" be an ironmaster; but if so, in all probability, he has a cook, and should she, or he (if a man cook), place before him a miscooked repast, he would as readily find fault with that repast, as I now complain of the crude, unfinished, and inferior bar-iron, almost universally manufactured in Great Britain; and which, as "Ferreus" remarks, supplies the globe with iron. I know not in what manner I am following the steps of Mr. Gibbons's opponents, or whose chimera I must fight. I have praised Mr. Gibbons's plan of ventilation, as applied in suitable situations. Of one truth I am fully satisfied—viz., that there are many who draw their whole store of knowledge upon the subject of ventilation from a perusal of Mr. Gibbons's book; and when they come to practice, they will find themselves like the swimmer, who had learnt his art by attentively watching the evolutions of a frog in a basin of water; and who, when he accidentally fell into a pond, felt himself in a most unpleasant predicament. To "Ferreus" I recommend, that as he has read Mr. G.'s work, he should likewise read, practically, the systems of ventilation already in operation.

Coleford, March 22. ROBERT MUSHET.

ANALYSIS OF IRON AND ORES.

Sir,—My father has, for half a century, called the attention of British chemists to that analysis of our materials which Mr. Mitchell names, as the first step to any scientific improvement in the quality of iron. The composition of our ores, by rigid analysis of the varieties of limestone, and of other fluxes, extensively and accurately ascertained, has been the favourite idea of his life, and the absence of such knowledge thought a national slur. In 1840, he offered to the qualified operator, the ashes of 300 specimens of coals, comprising every important and iron-making vein in England and Wales. If Mr. Mitchell undertakes these tasks, the least he will earn himself is reputation. DAVID MUSHET, Jun.

Gloucester, March 22.

MINE SURVEYING.

Sir,—If "A. B.'s" questions, inserted in your Journal of the 27th ult., are really practical ones, and he trusts entirely to your correspondents for answers, doubtless, that gentleman must be at a loss how to proceed—indeed, the solutions which have already appeared so widely differ, that they are anything but satisfactory. But since so much has been written on the subject, I presume it would be quite unnecessary and improper to occupy your valuable columns in giving answers, *operations in full*; and shall, therefore, content myself, by stating, for "A. B.'s" information, that to gain south 36 links, in driving 90 yards, he should direct his course at an angle of 7° 35′ south of east; I would also add, that 1° will shift a course in one mile 92 ft. 1·78 in.—INVESTIGATOR: *St. Agnes, near Truro, March* 23.

STEAM AS A VENTILATING AUXILIARY.

Sir,—To enforce the trial of steam as an "auxiliary" in the place of fire, I may add, that steam at 230°, and air at 500°, having the same specific gravity—viz.: half the atmosphere—it may reasonably be expected, that the rush of air from the mine beneath will produce vacuum by condensation, equal to 1000° of fire directly applied. Mr. Gibbons has an excellent simple contrivance to prevent explosions where there is a furnace, but with steam they would not be possible. D. MUSHET, Jun.

Gloucester, March 23.

MR. STRUVE'S VENTILATION.

Sir,—The naturnl system hails Mr. Struvé as its advocate. Is he aware of the force of his estimate?—1 lb. 3 ozs. per square foot of air, which he treats as a trifle, equals a velocity of 24 ft. per second! ! ! The safety lamp in such a mine will be a *lanthorn*. DAVID MUSHET, Jun.

Gloucester, March 23.

EXPLOSIONS IN COLLIERIES.

Sir,—"A Miner" is quite right, and the jury at Barnsley were quite wrong. There was no evidence to show any deficiency of inspection in candles and lamps, but a great deal to show the presence of a tremendous reservoir of destructive gas. The call for Government inspectors into the first is absurd; an inspector, if any, should be appointed for every man in the work, to see he did not wander 10 yards from his post, and fire the volcano. If coalowners will keep pet volcanoes underground, this is the expense they must suffer for keepers. It was inconsistent with the evidence, and with their verdict, to call for any other inspection, but to prevent the *presence* of inflammable air. It is shocking to read of these preserves of death, where a shovel, hooded or not, laid across the gates of destruction, must seal the destiny of a hundred men. The comparison with scattered gunpowder is most just, and so are the remarks on ropes. Their texture is injured by working in a shaft with a furnace at the bottom; and the source of many improvements in rope-making, has been the "dire necessity" of preparing them to stand this ordeal. "X" is misinformed as to the scaffolding in the upcast: it was suspended in the *downcast* shaft; and four unconnected viewers (one from Newcastle) proved it neither had, nor could, have checked the ventilation. *One man took a step too far!* This was the hair-balance on which a hundred lives depended! Has Fauvelle's boring made progress? A few holes well planted, would keep drained the wastes of any dimension of colliery, where other means are neglected.—DAVID MUSHET, Jun.: *Gloucester, March* 24.

VENTILATION OF MINES—MR. STRUVE, "X." (OF CARLISLE), MR. MUSHET, JUN., AND "F. B."

Sir,—It is gratifying to behold the great attention which mine ventilation is obtaining. No fewer than five contributions in your last Number—some of them distinguished for their length, if not breadth, of remark, from various mining districts—give goodly token of a right direction of the public mind on this most important department of mining. Perhaps, a few remarks from me to those gentlemen, who have been pleased to examine some of my arguments, may be proper and courteous. Taking each as he presents himself in your columns, I begin with the ingenious and mathematical *Mr. Struvé*. His formula and calculations demonstrate very clearly that, in the ordinary varying natural temperatures of the atmosphere and the mine, the time arrives and exists for lengthened periods in summer, when the preponderance of the downcast is lost, and, consequently, the circulation in the mine ceases; or when the former upcast column becoming the heavier, by being the colder, and of more specific gravity, presses back upon the mine, and reverses the ventilation. He has, however, omitted taking into consideration, that the upcast temperature *with the furnace* is greater than that of his highest assumed temperatures. As the furnace is approached, there will be found a difference between its column and that of the downcast, even in summer, of from 100° to 120°, if the furnace be a good one, and well kept, which will give a sufficient force of ventilation even for the most fiery mine. In a mine, about 160 fms. deep (960 ft.), I have found a barometrical difference in summer between the two shafts, a little more than $\frac{3}{10}$ths, or under one-eighth, of a pound pressure to the square inch, give a velocity in the main air passages of nearly 20 miles an hour. Now, you can scarcely have a much greater velocity, and carry on practical operations with convenience and advantage. If you expand the areas of your passages sufficiently, and keep up this rate of current through them and the galleries, sweeping your recesses, there will not be much difficulty, even in a fall of the barometrical pressure, of preventing any dangerous accumulation of fire-damp. It is impossible to calculate the quantity of the light carburetted hydrogen shut up in the apertures, crevices, or *backs* of coal. This gas seems to be in a condensed liquid state in the mine, according to the latest discoveries; and, while it abounds in some coal, as in the richest bituminous, exists not at all in others—as in the anthracite—and, therefore, the quantity is uncertain that may be developed at any time. It depends upon the nature of the coal, and not at all upon the excavated area of the mine. It will be found that some of the most fearful explosions have occurred when the coal had been little more than penetrated—as at Willington, Wallsend, and, a little time ago, in the *Low Main* at Jarrow: at the same time, there can be no doubt that atmospheric influences and temperatures, when this gas exists in a mine, rapidly evolve it. I submit, that any mechanical method for removing it would be less certain than the furnace; because the operations of the best-constructed machine are liable to get into disorder, and, not unfrequently, to cease. They will not go on for ever; and, if stopped—and as more subject to accidents, and equally so to neglect, as the furnace, stop they will—where, then, is your ventilation? Stopped, too, instantaneously. While the underground furnace has no machinery to derange, and, when neglected, can be immediately repaired, and, even should it accidentally go out—a thing never known—the high temperature of the surrounding rock will continue to produce rarefaction, and carry on the ventilation. Let me not, however, attempt to dissuade Mr. Struvé from persevering with his ventilating machine, or the coalowner he alludes to from applying it. The fan-blast has been used in some of the Yorkshire mines with advantage. Talent and science should be admitted more frequently into the mines than they are; it would be more to our advantage if they were. Would "X." (of Carlisle) be good enough to state the extent of his workings, both previous to, and since, the sinking of his 60 fm. pit; and the distance between his 30 fm. downcast, and the other two pits? In both cases, I suspect, the circulation, when left to itself, a good deal depends on the terrene, as well as the atmospheric, temperature. In cold weather, when the temperature is lower than that of the earth, he will have his ventilation go on without a fire—first, through his 15 fm. shaft, and then through his 60 fm. shaft, as upcasts—because, in each case, there is a preponderating column, though small, over the 30 fm. downcast; but, if I understand "X." aright, in warm weather, or an atmospheric heat higher than that of his mine, in "*hot, dry weather*," as he expresses it, he depends not upon natural ventilation, by an accidental 14-ft. elevation of shaft, but upon his fire. His 60 fm. upcast will be nearly 3° higher in temperature *below* the level of his 30 fm. downcast; and as air, of course, expands in proportion to its heat, and as all his workings from the level of the bottom of his 60 fm. upcast will be also proportionately expanded, and seek *ascent in his rise towards the downcast*, his ventilation, if left to natural means, he will permit me to observe, will be rather in a critical position; and, without he keeps his furnace in hand, may be liable, in hot seasons, to a reverse. He was safer in his 30 and 15 fm. pits; because the terrene temperature for the 15 fathoms in the 60 fm. pit, below the bottom level of the 15 fm. pit, was more compressible in lower temperatures than itself, and co-operated with the greater condensed column over it in cold weather to produce a circulation through the mine. It would be interesting if "X.," under his peculiar position, would keep a journal for a year of the temperatures at the surface, the bottom of his upcast and downcast, and in his workings the rates of circulation, and when his furnace was employed, with other interesting data.

This case is an extraordinary contravention of the proposition to drain off gases from mines. Here is a natural rise, a capacious tap-head, ascending from the workings for 30 fms., and yet the light carburetted hydrogen (0·5382), half as heavy as atmospheric air, *descends* for 30 fms., and is carried off by the current. This fact of itself, alone and unsupported, destroys the fanciful scheme of natural drainage and ventilation. I have to thank Mr. Struvé and "X." for their intelligent support of the views I imperfectly attempted to develope, which I believe to be those of truth, as far as they have been pleased to express it. We now come to men of rather different calibre. *Mr. Mushet*, the younger, who labours to impress us with his exclusive and supreme anxiety for the safety of miners, by insisting on his preconceived fancies in support of natural ventilation, is doing his best to bring on their destruction. Will this genius of the mines explain to us how the light carburetted hydrogen of "X." descends, instead of ascends, for 30 fms., *against its natural gravitation?* Will he be pleased, also, to suppose, that the current, by an approach to atmospheric equilibrium with the mine, might be of so sluggish a character down his incline to his dip, as just to allow a fiery mine, if "X.'s" were so, to surcharge itself, when, by the touch of a naked light, the whole would explode? Can he now conceive how a mine, being left to *natural means*, is dangerous—most easily dangerous—and that *it is not impossible* for light carburetted hydrogen to accumulate, and destroy 100 men at a blow, though it has natural "scope and verge enough" for escape, by its small specific gravity? At one moment, this acute defender of exploded errors will have the light carburetted hydrogen ascend *according to its nature*, it being light; and the next moment—nay, the same moment—he will have the carbonic acid gas ascend too, *contrary to its nature*, it being heavy—the one being half as heavy as atmospheric air, and the other being half as heavy again (1·5277). But that is no matter; they will, in amiable conjunction, to oblige Mr. Mushet, jun., ascend together—one according to its natural gravity, and the other contrary to it. The gravity of your mining readers cannot fail to be affected by such disturbing causes, natural though they may be, as the puerile reasonings employed by that gentleman upon this important question; indeed, they are scarcely worth controversion. Perhaps, as Mr. Mushet, jun., does not comprehend my illustration of the force of the ventilating current removing the heavy carbonic acid gas, and projecting it into the atmosphere, as rapid currents of rivers project stones into the sea, he may understand, that it is on the same principle that the force of a great atmospheric current, a hurricane, will blow down a house, and propel its slates, tiles, and other materials, at the rate of 30 or 40 miles an hour; or a tornado displace guns from a battery, and roll sentinels along the ground, or a whirlwind whirl stacks of hay, and uprooted trees, into the air. It is the force of the current in each case—in the mine, and on the earth—that sweeps along matters of greater specific gravity than itself. It cannot be either chemical or mechanical, *mingling* with the air, of a house, stacks, guns, and sentinels, that produces such effects, and yet they manage to get along—are, in fact, propelled; and when, by the force of the propulsion, they are driven beyond the space of its immediate operation, they are projected, as stones, into the sea, timber by an explosion from a mine, a ball from a cannon, or carbonic acid gas, by a rapid ventilating force, into the air.

I doubtless stated, and repeat, that it would be better, if it could be accomplished, that there should be no coal drawing in the ventilating shafts, for it reduces from $\frac{1}{4}$th to $\frac{1}{8}$th of the force; but, if at all used, I also as distinctly stated, and gave reasons for it, that I preferred it in the upcast or chimney, not in the downcast or door, which is contrary to his and Mr. Gibbons's opinions, which in this matter must be entertained by them, or they would pull down their upcast erections, upsetting their natural theory. Pits, I also said, should be as numerous as possible; but I cannot continue to lay out from 10,000*l.* to 15,000*l.*, more or less, for a shaft for every 30 or 40 acres on a 6 ft. seam; while in Staffordshire they are only laying out 500*l.* or 600*l.* for each on a 30 ft. seam. Neither I, nor any northern coalowner, could do it. It must be admitted, however, that in many situations, as north of the great 90 fm. dyke, the cost of sinking shafts is much less than that I have now stated; and they may, therefore, be more numerously sunk there with advantage. Nor can I hesitate to say, that every mine should possess at least two pits, and not be worked, as sometimes happens, with *a bratticed shaft*. But, it will be clearly understood, this is widely different from putting down numerous shafts on a thin seam, that would more than counterbalance its total value.

In 1840, the plan for ventilating by *steam* through a *single pipe* was recommended by M. Conot, engineer-in-chief of the mines of Mons; and his paper inserted in the Report of the Belgic Commission of that year, but which has been long ago demonstrated by Mr. Gurney, to be an erroneous application, inasmuch as the force of the steam, being only applied to one portion of the column of air, by moving that portion alone and leaving the remainder at rest, would form a circular circulation, instead of an ascending one, because that remainder would continually rush in to supply the vacuum. This kind of circulation is only to be effected by *a series of steam jets*, each moving its particular portion of the column, and producing a velocity at almost any rate. This disciple of Mr. Gibbons seems to possess the same happy power of renovating old errors, as new and splendid discoveries, as Mr. Gibbons himself. A little more of the history of mines would be useful to both of them.

Mr. Goldsworthy Gurney, the inventor of the Bude light, and well known to the scientific and mechanical world, was the first to press upon the country the application of *high-pressure steam* for the ventilation of mines, which he did to the Committee of the House of Commons in 1835, and has since more fully developed his plan. It has been proposed to apply it underground at the furnace of the upcast, where it will give a certainty of force and power of control over the ventilation, that is deserving of the highest consideration. Its rate can be varied from 8 to 80 miles an hour—from that of a gentle breeze to the rushing of a hurricane. To produce this effect, there is only a boiler with tubes—*no machinery*—placed over the furnace; and, should any accident occur to it, you still fall back upon your furnace, which is necessary to its operation. Justice to that ingenious man seemed to demand that this occasion should not be lost to do his invention honour, when steam processes of ventilation are talked of.

M. Pratique, I trust, will in no way be deterred by any mystification of affected scientific terms, from pursuing the course he has laid down for himself—an inquiry into the first principles of ventilation. It is the right and safe way. About Durham he has opportunities, in the mines there, of trying conclusions with his scientific views. Let him not shrink at the first rebuff. "Let him ask questions of Nature," as Lord Bacon has it; she will always answer intelligibly. He has, at the same time, a first-rate mathematical, geological, and scientific school in the College of Durham, in case of need, to apply to.

It will be difficult to reply to "F. B.," with his "mingled feelings of grief and anger"—the depressing and exciting passion, like two gases at explosive point. If he cannot understand that a colder column of air, being heavier, will counterbalance a warmer column, being lighter—if this he cannot understand, I cannot help that; I can only say that, when next he does me the honour of quoting me, he will do it exactly, and not in accordance with his own confusion of ideas on the subject. His denying *in toto* either effects or causes, such as I have pointed out, will not totally *in toto* destroy either the one or the other. At any rate, he must remove the causes before the effects will cease. He does not seem to be aware of his own position and its effects, when he states that the atmospheric air at 80° passing into the mine (*will it pass into the mine?*), and getting to 60° at its arrival at the upcast, will still proceed in that course—as if it would not far more easily, and according to its gravity, then come back again from the outcast, and go out the way it came, by the door, and not by the chimney; because the upcast column at 62° is heavier than the downcast at 80°. But he asks, "When it is in the upcast, what will it do there?" I should ask him that question. It would, however, do nothing there but harm; for though the chimney is standing at 80° of atmospheric heat, yet it is not itself at 80°—because its material, and the thickness of its construction, are far too slow conductors of heat to be affected by hourly alternations of atmospheric temperature; and the mischief is done in the aerial circulation of the mine, before the chimney can adjust itself; while it is filled with 62° air, the atmosphere external to it, and over the downcast, is at 80°, and so the preponderance is reversed, and the mine current along with it. Besides, if you admit, as you do, the air of your chimney to be 80°, and the upcast itself at 62°, while the downcast is at 80°, you nullify your chimney, and leave your 62° upcast overpowering your 80° downcast; and these phenomena are neither "strange nor anomalous," but simply natural. Before this gentleman resumes his communications on the theory of ventilation, I beg he will take all these natural phenomena, and the subject of pneumatics, into his fullest consideration; they will be neither less interesting, nor correct, by his doing so. This will, I trust, be the last occasion on which, at present, I shall have to trouble you. Both your time and space, as well as my own engagements, are too valuable to extend this discussion beyond its present bounds. V.

Newcastle-upon-Tyne, March 23.

COAL-PIT ACCIDENTS.

TO THE EDITOR OF THE NEWCASTLE GUARDIAN.

Sir,—Scarcely a week passes over, but when, perusing the pages of the newspaper press, our eyes meet with some account or other of disasters in coal mining operations. Alas! how frightful has been, and still is, the sacrifice of human life connected with such undertakings; and yet, notwithstanding all this, a British public views, with apparent apathy, this disastrous and crying evil! Surely there is a necessity for some legislative enactment, with a view of no longer permitting our fellow creatures to be thus continually exposed to the most dangerous of all occupations, without commensurate endeavours to afford them some protection! The widows' tears, and the orphans' lamentations, for the many slain in our coal mines, move not (except for a short time) the sympathy of a British public, *much less* the Legislative Assembly of this so-called, "*our highly-favoured country.*" Our fellow subjects, it is true, are actuated by a feeling of sympathy for "*cruelty to animals*," and they have endeavoured, by legislative enactment, to a certain extent, to abolish it—but *man's cruelty to his fellow-man*, in this particular instance, is soon forgotten, and entirely neglected, in respect to those sons of toil, who have so long groaned under the oppressive wrongs which they have been called to endure, unseen and unpitied, generally speaking, by mortal fellow-men. Surely, Sir, it must be a frightful calamity, which serves even the pages of the *Illustrated London News*—for the hand of their artist and talented contributor bears a faithful record of the calamity at Ardsley, near Barnsley, where, it appears, no less than upwards of 80 fell victims to some incautious proceeding, or neglect. "*Dead men tell no tales*," and how often the blunders of managers are buried in the grave with the sufferers. They talk of "patent safety lamps." There is no patent for safety lamps, unless it be the *chimney* and *useless* "Robert's lamp," so designated, which is about run out. Indeed, I am proud to say, and there are many will bear me out, when I aver there is *no light* and *no safety* but by using the "Clanny lamp." It is true, it is said, the mine had a "good draught of air;" but, how often do we find these "good draughts of air," so called, infringe upon the pent-up gases exuding from a blower, or a "fault," and in which thorough ventilation has not been completed; the miner discovering his danger, hastily retires—by which a greater impetus is now given to the Davy lamp; the mixed gases of the mine enter freely into the cylinder of the wire gauze, the flame of a common lamp at once passing through it. No doubt, many explosions have been caused by such proceedings. Now, such an occurrence *cannot possibly* take place with the "Clanny safety lamp." The thick glass cylinder, surrounding the flame, prevents any description of current from influencing the flame. Prompted by feelings of humanity towards a class of our fellow-men, so long oppressed, and so long neglected, has thus caused me to trespass on your valuable columns; however, I confidently expect the time is *now* not far distant, when a British House of Commons will not only see it to be their duty, but also be actuated by feelings of common humanity, and endeavour in their wisdom, by every

means at their command, to cause a searching inquiry to be made into all such calamities, and thus endeavour to avert these deeds of destruction of life and limb.—T. H. Torrock, M.D.: *Kirkby Stephen, March* 16.

THE PATENT PROCESS OF SEPARATING SILVER FROM LEAD.

Sir,—Of course your are aware that Mr. Hugh Lee Pattinson, of Newcastle-upon-Tyne, has lately petitioned the Lords in Council for a renewal of his patent, for the separation of silver from lead, which expires on the 28th of October next. Soon after Mr. Pattinson had taken out the patent, he granted licenses to the lead smelters in Northumberland and the east coast, and to works in London, Scotland, and Cornwall, which bring him annually considerable sums; he also granted a license, at 3*s.* per ton, to a smelting concern in Flintshire, and subsequently sold his patent right for all North Wales to another smelting company, in the same county, for a round sum, which latter firm has realised a large profit by the monopoly, as they refused granting any licenses. Now, Sir, as Mr. Pattinson has done so well with his patent, and, particularly so, the firm he sold it to in Flintshire—it is hardly fair to the other smelters—indeed, to the mining interest generally—that the extension applied for should be granted.

March 18. O.

DIRECT-ACTION REVERSING WATER-WHEEL.

Sir,—I called in the other day at the office of the Coombe Valley Slate Company, for the purpose of examining the specimens—my object being, to take some shares in the concern—and I was shown, among other things, a set of drawings for the machinery to be erected on the quarry; the principal thing of most novelty to me, was a *direct-action reversing water-wheel*; the water passages are so arranged that it can, by only turning a lever or two, be *started, stopped,* and *backed,* with the same facility as a steam-engine; the shaft is connected with the drum, or horizontal cage, by only a common clutch—thereby entirely obviating the use of reversing gear. Mr. Richardson, the secretary, was not at home, but the assistants told me, it was an entirely new invention—if such is the case, I think it but right that its merits should be made known; its construction is so very simple, and its effects so certain, that I feel a kind of surprise such a thing has never been brought into use before this. You will greatly oblige me by laying this before your Cornish correspondents, whereby we may be able to glean further information on the subject. W. W. B.

College-street, Camden Town, March 24.

[We are obliged to our correspondent for directing attention to this invention, and of which we will give a description in next week's Journal.]

DUNDALK AND ENNISKILLEN RAILWAY.

Sir,—Certain parties, purchasers in February, 1845, having neglected, or studiously avoided, to register, this company has summoned the original shareholders, who subscribed the deeds for all the calls which have been made, and are still unpaid thereon. The brokers employed at the time, can prove that the said subscribers of the deed actually sold their shares, and so denuded themselves of any interest in the railway, and that they believed their connection with this company had ceased, and that the parties to whom they had sold had registered.

The promoters of the line, when they went for their bill, pleaded that the line was to be 40¾ miles—that the stock was to consist of 15,000 shares of 50*l.* each—that the net profit per annum was estimated at 45,603*l.*—a dividend of 7 per cent.—and, also, that interest, at the rate of 4 per cent., would be allowed on all paid-up calls. The chairman, I see, is the Earl of Roden. With 10*l.* paid, I understand the stock was last sold at 32*s.* per share. Some shareholders I am acquainted with, are disposed to contend that the contents of the deed they signed never were shown, made known, or read over to them, in any way; and that, in the circumstances of the case, and the company, they cannot now be compelled to pay the calls. This, however, is doubtful. It is quite clear, that if companies are in this way, at distant periods, to fall back on the original shareholders, demanding large sums of money from them, notwithstanding they had long ceased to be connected with such company, a fearful extent of litigation and bankruptcy will be occasioned, which will operate against the upgetting and establishment, not only of railway, but other joint-stock companies. J. P.

Edinburgh, March 20.

[We fear the position of the shareholders referred to is one from which they can only release themselves by satisfying the claims of the directors, and again taking up the shares those to whom they were sold failed in paying on. How many beside themselves have cause to regret signing deeds, without knowing the responsibility they were incurring?]

Apparatus for Decreasing the Loss of Heat in Locomotives.—An experiment has been tried on the Brussels and Antwerp Railway with an instrument of the above kind. Its principle is, making use of the gases which go off, carrying with them a large portion of heat after they have left the boiler, and gave general satisfaction. It consists of a small heating reservoir, placed in the smoke-box, but separated from the boiler tubes; it is pierced with the same number of holes, and corresponding with the tubes of the boiler. The water is conveyed from the tender by a fixed pipe, under the apparatus; and two other tubes, fixed higher up, cause a circulation through the heat reservoir. The feed pumps receive their water from a pipe beneath the reservoir. It appeared that there was an average heat of 72° Reamur in the apparatus, obtained entirely from the gases, which, but for this, would have passed up the chimney. It is the invention of M. Cabry, chief engineer of the Belgian lines.

Andraud's Compressed-Air System of Propulsion.—This system of propulsion on railways has, for some time, attracted the special attention of scientific men in France, who are anxious to ascertain how far it can be successfully adopted. Dr. Jules Guyot, of Argenteuil, having been requested by the Editor of the *Journal des Chemins de Fer*, to inspect the working of the model line now exhibiting in Paris, and to give his opinion thereon, has addressed a letter to that journal, in which he states, he had long since given his opinion on atmospheric propulsion, both by compression and rarefaction, which is, that on the vacuum principle, considering all circumstances, it requires a power of *two* to produce the effect of *one*—while, by compression, a power of *one* obtains an effect of one. In this general view of the question, he considers that the system of M. Andraud has an advantage of at least cent. per cent. over that of Clegg and Samuda. His opinion of traction by exhaustion, is a paradox in physics, a monstrosity in mechanism, and an absurdity in speculation; and, therefore, that to be merely doubly superior, must not be considered the actual difference. The system of M. Andraud, besides having the merit of turning to account all the power expended, presents other advantages, such as absence of leakage, and economy in working. In the *Mining Journal* of Nov. 1, 1845, we fully described a system for adopting compressed air, patented in this country by Mr. Nickel, which appears to us to be identical with that of M. Andraud, and we understood at the time that half the interest in the English patent was held by a gentleman in France. A close tube underground, or alongside the line, is laid the whole length of each section of the tube; above and exactly in the centre of the rails is laid a wood or iron beam, concave on either side, affixed to which are loose diaphragms of any proper flexible material, which, when uninflated, are pressed into such concavity. Two vertical wheels, or cylinders, also fitting into these hollows, are strongly fixed to the leading carriage of a train, and the air in the underground tube being highly compressed, on opening a valve in connection with the flexible tubes above, it rushes in, and, forcing out the diaphragms, carries the vertical cylinders along with great power, and, consequently, the train with it. Being perfectly satisfied as to its excellent working and security, how is it, he asks, that this system experiences so many difficulties to bring it forward, and that M. Andraud has not taken advantage of the patronage and assistance of Government? This may have arisen from fear of too great an outlay, or modesty and want of decision, which has caused by degrees those capitalists, who were at one period most enthusiastic in its favour, to have become cool, and apparently careless, on the subject.

Elastic Atmospheric Railway Tube.—Our respected correspondent, Mr. Martin, of Penzance, has sent us a drawing and description of an elastic tube for railways, formed of caoutchouc, in which brass wires are inserted, to give it strength, with some other details. Now, we believe our correspondent cannot be aware that Messrs. Clarke and Varley, of Cambridge-heath, have long patented a wrought-iron tube on this principle, and which is being rapidly carried out, 150 yards of 15-inch tube being now laid down on the Blackwall line for a full working experiment. We have no doubt it will prove thoroughly successful in economy, speed, and safety, and supersede every other atmospheric system. Mr. Martin's plan would be a direct infringement of the principle; and, while we admire his ingenuity, we would just notice, that the expense of his tube would be enormous, and the wear and tear ruinous.

SILVER AND GOLD MINES OF THE NEW WORLD.—No. VII.

V. Production of Mexico to this Day.

To make a valuation of the quantity of precious metal that Mexico has supplied up to this day, it is right to distinguish at least two periods. We will take, for the first, all the interval between the Conquest and the year 1810, in which the struggle for Independence broke out. During these 290 years, the extraction enregistered amounted to the sum of 1,913,935,898 piastres.* But there must be taken into account the quantities of gold and silver sent clandestinely out of the kingdom, to avoid the payment of duties. Under the colonial system, this smuggling was particularly great before 1723, for two motives: the authority of the metropolis being then less strong over the colonists, these colonists easily defrauded the Government, and the temptation was great, for the duties were very high. The Crown levied the fifth part of the produce of the working, a pound of silver, or of gold, for every 5 lbs.—that was the *quint*. There were, besides, other imposts—the 1½ per cent.; then the impost of assay; then that of the lordship; then that of the mint. The *quint* was reduced one-half, and became a tenth, in 1723 in Mexico,† in 1736 in Peru. The duty of 1½ per cent. was also reduced to 1 per cent. in Mexico. At the commencement of the century the total profit of the government was 12½ per cent. on silver deprived of gold. On auriferons silver it was greater—when the silver contained 50 grains in gold per mare (about 1 per cent.), the duty was equal to 19 per cent. With a richness in gold of 6000ths, or less, the duty was infinitely heavier, for all the gold belonged to the Crown.‡ That was enough to make smuggling exceedingly active, especially before 1723; but, at that period, Mexico did not yield quite the third of what she yielded 75 years later. It will be imagined, too, that from the manner in which the auriferous silver was treated by the taxes, smuggling was particularly active in that part of the production. As fraud is much easier in gold, when once it is put in lingots, from the simple reason that it contains a greater value in a smaller volume, it must be admitted that the proportion of metal sent away clandestinely was, everything else being equal, greater in gold than in silver. We will add, therefore, a seventh to the silver enregistered, and a fifth to the gold. The correctness of these figures (hypothetical, however) results from a certain number of details. We thus arrive at 2,195,547,767 piastres, of which 2,023,487,959 in silver, and 172,059,808 in gold. In weight of metal, exempt from alloy, this is 49,443,928 kilogrammes of silver, and 254,476 of gold.

After 1810 the production becomes difficult to ascertain, from various causes. As long as a revolutionary crisis lasts, there is nothing that goes regularly in the country. The working of mines is precarious; many undertakings are suspended, because the workshops have been pillaged and sacked. The quantity of metal struck in the mints is no longer in relation so direct and constant as the production of the mines; either, on the one hand, metals in lingots are secretly exported, instead of being delivered to the mint; or, on the other hand, from the need of resources, silver and gold, formerly extracted and converted into ornaments and utensils, are sent to the mint. Lastly, the mints of Mexico, by one of those sudden changes that revolutions, or extravagant speculations, are only able to bring about, received from Europe, at the end of this period, precious metals and gold; they were remittances from the English companies, formed for the working of the mines after the Independence.§

Upon the whole, there is reason to believe that the extraction of metals very little exceeded the coinage during the 16 years of the crisis, from 1810 to the end of 1825. It would be in all, after the monetary accounts, 178,302,028 piastres, 10,000,000 thereof being in gold. We will put down this total ‖ at 185,000,000 only, divided thus—silver, 170,000,000 piastres, or 4,153,950 kilogrammes of pure gold, 15,000 piastres, or 22,185 kilos. But, the Independence once obtained, smuggling displayed itself with extraordinary audacity, without anything balancing the influence thereof on the apparent production of the precious metals. The corruption of the authorities afforded it facilities that were turned to good account. Thus M. Duport, who, by his direct relations, cannot fail to be well informed, says that he has acquired the certitude that the value of the precious metals embarked in 1840, in the different Mexican ports of the Pacific Ocean, on English vessels of war by smuggling, amounted to 6,000,000 piastres. According to the same person, the clandestine exportation of gold exceeded in 1841, by more than one-half, the legal exportation; and the smuggling of that year, which accidental circumstances had rendered null on the coast of the Mexican Gulf, was in all 5,000,000 against 13, or 38 per cent. The carriage, from 31st December, 1825, to 31st December, 1840, in the different mints of the Republic, was 161,676,527 piastres, in which there were not more than 7,500,000 piastres in gold. On account of fraud, we will count 200,000,000 piastres in silver, and 15,000,000 in gold. From 1841 we will suppose annually 16,000,000 piastres in silver, and 2,000,000 in gold; to the year 1845, which we will put down for 21,000,000 piastres, of which 18,500,000 are in silver, and 2,500,000 in gold.¶ From the commencement of the struggle for Independence, there will be, therefore, 452,500,000 piastres of one metal, and 40,500,000 of the second. We arrive thus at a total, since the discovery, of 2,688,547,767 piastres, corresponding in weight of pure metal to 60,500,766 kilogrammes of silver, and 314,378 kilogrammes of gold.

As regards gold, it must also be borne in mind, that a great quantity of piastres have quitted Mexico, with a dose of gold, that the refiners of Europe have separated. Under the colonial *régime*, we have said, that the parting was only on 45,000 kilogrammes at the outside; whilst the extraction was 537,000 kilos. We should be below the truth, in putting at 1000th of the totality of silver extracted since the beginning, the gold sent out of Mexico without being recognised, but which has become, and is becoming, every day recognised by the interested care and intelligence of European industry; for during a long time, the parting was not made on lingots rich by 3 or 4 thousandths. We have the proof in this fact, that when less than 6½ thousandths, the Spanish Government (which, however, levied a payment for the operation), gave no account of the gold to the miners. Twenty-five years ago, after the industry of parting had been perfectionised, the point at which the yield in gold would profit to private persons was placed at 3½ thousandths, although there was still maintained, for the profit of the national establishment, a fixed payment per marc of silver refined, and although it was intended to treat liberally mineral industry. At present, with the parting workshops that M. Duport organised, and that the Government caused to be ceded to it, there are extracted with profit in Mexico 2000ths in gold. For this motive, we exaggerate nothing in augmenting by 60,000 kilogrammes the quantity of gold estimated above; and this will make the total quantity 374,378 kilogrammes.

Strictly speaking, it would be right to take further into account the greater value of the silver piastres struck before 1772, which were of a superior standard to the present; as also for the quadruples of gold, which have been still more seriously changed, first in 1772, again in 1786. In making these corrections, of which we here suppress the analysis, we arrive, for the production of Mexico, at the definitive total of 2,743,937,439 gold and silver piastres, which corresponds in weight of unalloyed metal to 60,782,917 kilogrammes of silver, and to 379,221 kilogrammes of gold. In French money, it would be a total of 14,813,000,000 fr. (292,520,000*l.* in English), of which 13,507,000,000 fr. in silver (540,280,000*l.*), and 1,306,000,000 fr. (52,240,000*l.*) in gold. Thus, in Mexico, the total production has been 160 kilogrammes of silver against 1 kilogramme of gold, and in value, after the tariff of French money, 10 francs 34 centimes in silver, against 1 franc in gold.

Let us repeat, that the present production is, in silver, 16,000,000 piastres, or 390,960 kilogrammes; and, in gold, 2,000,000 piastres, or 2959 kilos.: it is in weight 135 kilogrammes of silver against 1 kilogramme of gold; or in francs, at the assessment of the French mint, it is 97,000,000, of which 86,800,000 in silver, and 10,200,000 in gold, or 8½ francs in silver against 1 franc in gold.**

VI. The Mines of Peru.

From Mexico let us pass to Peru. Peru was of all the Spanish colonies the most productive in precious metals, and it has maintained this pre-eminence in popular opinion. So far back as 1545 the classic mountain of Potosi was worked; but, when once the Mexican mines of Zacatecas and Guanaxuato were fully worked, Mexico equalled Peru, and subsequently surpassed it. It was in vain that new mines were discovered in Peru—in 1630, those of Yauricocha, or of Pisco, by an Indian; in 1771, those of Gualgayoc, a deposit exceedingly rich, of the discovery of which another Indian may claim the honour; and a little later, the deposits less remarkable of Porco and Huantajaya—Mexico maintained the foremost place. Thanks to the vein of Guanaxuato, at the commencement of the century, the yield of Mexico was more than double that of Peru, even including the provinces which were annexed to the vice royalty of Buenos Ayres.†† The Mexican veins, nevertheless, do not surpass in thickness those of Peru. No; both are of the same family. The Peruvian ores are even more easy to be treated than those of Mexico;‡‡ but the Mexican metallic beds are found in sites in which the climate is well adapted to flourishing agriculture, and man is pleased to reside in such delightful regions. At Guanaxuato, for example, one feels that one is in *Feliz Anahuac* §§ (Happy Mexico). Beautiful towns, surrounded with rich culture, have naturally arisen in the midst of the Mexican *reales*. They are almost always, at least, 2000 metres above the level of the sea. The mines of Peru occupy an icy land, on account of the elevation of the country, where trees refuse to grow and men to reside. It is contrary to Nature to erect towns and to transplant the human race to such places as Pasco, Huancavelica, and Micuicampa. One touches there with the hand eternal snows. It is Siberia under the Equator—Siberia, with the storms of the Torrid Zone—Siberia, deprived of its immense forests, so precious in metallurgy—Siberia, without its rivers, condemned to perpetual sterility, except in some rare *quebradas* (sheltered vales), in which are cultivated barley and potatoes. The little Peruvian town of Micuicampa is 3618 metres above the sea, which is 200 metres higher than the Peak of Néthon, the highest of the Pyrenees. Almost every night the thermometer descends in that town to a freezing point, which never happens at Tobolsk, and the rest of Boréal Russia, in the summer months. The rich mine of Gualgayoc, which is near thereto, is 4080 metres above the sea. The mines of Pisco, which are of prodigious richness, but the worst-worked in the world, are also more than 4000 metres high—the height of the Yung-Frau. The mine of Potosi is worked at an elevation superior to that of Mount Blanc, the King of the Alps. Thus a difference in the level of 1500 to 2000 metres suffices to cause to Peru, with a metallurgic wealth intrinsically equal or superior to that of Mexico, a disadvantage in the extraction of silver which human industry will only overcome, if it overcomes it at all, with energetic efforts long sustained. But energy is the last thing to be demanded from modern Peruvians.

The town of Pasco contains at present, nevertheless, in the midst of these frightful climates, upwards of 18,000 souls; but what an existence is passed there, and what an expense things are! A traveller who recently traversed the country, and who has described in expressive terms the detestable system of working applied to the innumerable veins, if system it can be called—Dr. Tschudi states that he had to pay at Pasco for the feeding of his horse from 10*s.* to 15*s.* per day.

In extreme climates man is inclined to seek excess. Unless he be of a character of a strong stamp, it is impossible for him to remain in a disposition of mind necessary for difficult enterprises, for the success of which are required the spirit of order and perseverance, a great deal of foresight, activity, and knowledge. The bad treatment inflicted on the Indians of Peru under the colonial system, and of which the whites have consecrated the habitude, is opposed to the extension and amelioration of mining industry in the Peruvian republic, in spite of the liberal and equitable modifications which the letter of the law has received since the Independence. The natives of Peru have constantly been treated with greater indignity than those of Mexico. The traditions of Cortez and those of Pizarro were not the same—not that Cortez was humane, at least towards the chiefs of the nations that he went to conquer, but he was a great man, superior in the art of government, as well as daring and invincible in war; and when in his heart humanity was silent, policy made him benevolent and just. Compared to him, Pizarro and Almagro were chiefs of brigands. Peru being more distant than Mexico, the cupidity of the Europeans was more difficult to be repressed. The Spanish Government, which always had the intention to protect the Indians, and which made hundreds of ordinances with that object, had trouble enough to make itself obeyed in the Mexican provinces; it never had the arm long enough to cause its orders to be respected as far as the steep mountains, in the midst of which Lima is placed, and where a distance of 100 leagues was increased tenfold by the incredible difficulty of communication. The labour in the mines, which was free in Mexico, was forced in Peru, up to the declaration of Independence, by virtue of the institution of *la mita*, a sort of conscription or servitude. All kinds of oppression were practised against the old subjects of the Incas, and with particular cruelty in the mines. It was thus that the Peruvian population became so much lessened, that at this day labourers are wanted; whilst the population of Mexico has remained considerable. Oppressed by so much tyranny, the natives made revolts, though in Mexico not one occurred; and in Peru these revolts even went so far as to compromise Spanish domination, when the Cacique Tupac Amaru, presenting himself as the heir of the Incas, called his countrymen to vengeance.‖‖

Considering gold and silver as the cause of their woes, the Indians commenced, from the period of the conquest, by burying, or throwing in the lakes, all that they possessed of either metal. Thus disappeared a golden chain, celebrated in the annals of the period, which had been made for the birth of the Inca Huescar. The conquest completed, they kept to themselves the secret of all the veins they discovered. It is said that they left their secret to their children, to enable them to go from time to time to obtain from the mine some choice morsels; and, in the event of better times arriving, to enable their posterity to enrich themselves freely. When they had any obligations to a white man, they gave him some pieces of the purest ore without indicating the mine. Dr. Tschudi relates many stories that he gathered with respect to these well-kept secrets of the Indians. The greater part are sad and bloody. Here is one, more in conformity with the naturally mild humour of the natives of Peru:—A monk united in friendship with an Indian, and to whom the Indian had brought some blocks of the richest ore, supplicated him to make known the place from whence he drew his treasures. The Indian having consented, came one night to receive him, with two of his friends. He bandaged his eyes, and bore him on his shoulders to the midst of the mountains. There he deposited him, and, taking off the bandage, told him to look around. The monk found himself at the bottom of a little well, dug in ore dazzling from its richness. After having expressed his intense gratification, and taken as much as he could cram into a bag, his eyes were bandaged anew, and he was obliged to allow himself to be borne to his own house. On the way he had the idea to let fall the beads of his chaplet, in the hope of refinding the place; but some hours after arriving at his residence, the Indian appeared and said, "Father, here is your chaplet that you lost;" and, as he spoke, he handed him a handful of beads.

The same sentiments still subsist. The Indian still bears towards the descendants of the Spaniards the same hate and the same distrust. When he works for the white man, he spares no cunning to secrete the best pieces of ore, and does nothing to make the working of the mines more profitable. The white man, on his part, takes no precaution to put the life of the miner out of danger from the falling-in of earth; and thus, in the bowels of Peruvian earth, there take place most lamentable adventures.

[*To be continued in next week's Mining Journal.*]

* The silver piastre represents according to the quantity of pure silver that it contains, 5 fr. 43 cents. (about 4*s.* 4*d.*) Compared to the French piece of 20 fr., the golden piastre has a smaller value—5 fr. 9 cents. It is well to remark, that the qualification of golden piastre is rather conventional than legal, and is not inscribed on the piece itself. The name of the Spanish piece of gold is quadruple, and not a determined number of piastres, whilst the French piece of gold supposes an absolute relation between gold and silver; the law calls it the piece of 20 francs.

† Long before 1723, however, several districts of Mexico enjoyed this reduction.

‡ Six thousandths of gold represent nine hundredths and a half of silver.

§ Mr. Ward calculates the remittances coined at Mexico at 1,936,040 piastres in gold, or 2963 kilogrammes (*Mexico*, vol. ii. p. 19).

‖ This total is given by Mr. Ward, who takes into consideration—1. The labour of a mint, established at Soubrerete, at the end of 1810, which was in operation during a year; 2. The carriage made at Guanaxuato, in 1812 and 1813, by the colonial authorities in the establishment, organised by the chief of the insurgents, Hidalgo; and that which, at a later period, took place in the same town, from 1821 to 1825. The total is 4,042,636 piastres.

¶ Mr. M'Gregor, of the Board of Trade, in a volume that has just appeared, and which makes part of the important collection that he publishes on the commerce of different states (*Commercial Tariffs*, &c.), puts down at 18,500,000 piastres the average production of late years. He estimates, after the correspondence of British consuls, the carriage of 1844 at 13,754,631 piastres, and of 1845 at 15,141,816.

** We leave out, as if it were accidental, the production of 21,000,000 piastres, calculated according to the carriage of 1845, indicated by Mr. M'Gregor.

†† In 1778 the provinces of Potosi, La Paz, Oruro, and La Plata, all rich in silver, were transferred from the vice-royalty of Peru to that of Buenos Ayres.

‡‡ On account of the relative abundance of ores, called *colorados* or *pacos*, the amalgamation of which, as just explained, enables the silver to be extracted more easily and more completely.

§§ This is a qualification that I have frequently heard given, although at present it is not exactly adapted to this country, desolated by revolutions. *Anahuac* is the name of the valley of Mexico in the language of the Aztèques.

‖‖ In the eighteenth century there were disorders at Mexico; it even happened that at one time the palace of the viceroy was burned by the Indian population; but they were the *émeutes* that occur everywhere in the time of scarcity, and were not insurrections against Spanish authority.

THE PARIS INSTITUTION OF CIVIL ENGINEERS.—We noticed, some time ago, that M. Dumon, the Minister of Public Works, had devoted his attention to the establishing of an institution of civil engineers in the capital. To carry out this grand project, he has been ably supported by nearly all the leading scientific men in that profession, who have put their names down as members; and an appropriate building will soon be finished to receive them. The model rooms will be on a large scale; and the library will be composed of the best works on civil engineering, mechanism, and the useful arts, connected with every branch of the profession of an engineer, that are published in France, Germany, and England, which is considered as the highest standing in the vast improvements which have been made since the time of the immortal Watt, Telford, and other celebrated men; and, of late years, by the Rennies, Stephensons, Galloways, Mosleys, Braithwaites, Lockes, Cubitts, and numerous others, who have gained just celebrity in that science. The profession of civil engineer in France has hitherto met with but little patronage; but, in consequence of the rapid increase of railways, steam machinery, and mining enterprise, the Government is now anxious, not only to give every encouragement to men of science in those branches, but to throw open a new field to young men of talent and industry, by affording them every means of perfecting themselves in a profession so useful to national improvement and wealth.

BIRMINGHAM AND OXFORD JUNCTION RAILWAY.

SECOND CALL OF FIVE POUNDS PER SHARE.

The directors having passed a resolution, requiring the shareholders to PAY a further CALL of FIVE POUNDS on each share held by them respectively, on the 19th day of April, 1847, Notice is hereby given, that the shareholders are required to PAY such CALL, on the day appointed, to one of the undermentioned bankers; and, in default thereof, they will be charged with interest, at the rate of 5 per cent. per annum from that date, until the said call is actually paid.

The BIRMINGHAM BANKING COMPANY, } Birmingham.
Messrs. ATTWOODS, SPOONER, & Co., }

OR AT THEIR LONDON AGENTS:

Messrs. JONES LOYD & CO., for the Birmingham Banking Company.
Messrs. SPOONER, ATTWOOD, & Co., for Messrs. Attwoods & Co.; and at
Messrs. MOSS & CO.'s Liverpool, for the Birmingham Banking Company.

A circular will be sent to each shareholder, which must be deposited at the bankers when the call is paid. By order of the board of directors,

JOHN WILLIAM KIRSHAW, Secretary.

34, Bennett's-hill, Birmingham, Feb. 27, 1847. 55

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.

—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS of LOANS on DEBENTURES, in sums of not less than £500, for three or five years: the interest, at 5 per cent. per annum, to be payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.—Tenders to be addressed to this office. By order of the directors, D. RANKINE, Treasurer.

Caledonian Railway Office, 122, Princes-street, Edinburgh, Feb. 26, 1847. 59

CLARENCE RAILWAY.—Notice is hereby given, that, pursuant to a RESOLUTION of the company of proprietors of the CLARENCE RAILWAY, passed at a General Meeting, on the 31st day of March, 1846, and in conformity with the Acts of Parliament regulating the said company, a MEETING of the company of proprietors will be HELD at the George and Vulture Tavern, St. Michael's-alley, Cornhill, London, on Wednesday, the 31st day of March, 1847, at One o'clock precisely in the afternoon. CHARLES BENSON,

Clerk to the Company of Proprietors.

60, Old Broad-street, London, March 15, 1847. 60

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY.—TO CONTRACTORS FOR PUBLIC WORKS.

The directors of this railway are ready to RECEIVE TENDERS for the CONSTRUCTION of a PIER, about 500 yards long, with a DOCK, and OTHER WORKS, at NEW HOLLAND, LINCOLNSHIRE.

Further information may be obtained at Mr. Fowler's offices, 13, Abingdon-street, Westminster; or at the resident engineer's office, Brigg, where plans, sections, and specifications of the works may be seen, on and after Wednesday, the 31st March; and the directors will meet at their offices, in Sheffield, on Tuesday, the 13th April, to let the contracts.

Sealed tenders, addressed to the chairman, must be delivered before Eleven o'clock on Tuesday, the 13th of April.

The directors do not bind themselves to accept the lowest tender.

YARBOROUGH, Chairman. 61

WEST FLANDERS RAILWAYS.—Notice is hereby given, that the THIRD HALF-YEARLY GENERAL MEETING of the proprietors in this undertaking will be HELD at the London Tavern, Bishopsgate-street, London, on Saturday, the 27th of March next, at One o'clock precisely, on the general business of the company.—Dated this 26th day of February, 1847.

(Signed) W. PARRY RICHARDS, President.
WILLIAM JESSE, Secretary.

London, 11, King William-street, Mansion-house. 62

WEST FLANDERS RAILWAYS COMPANY.—NOTICE OF CALL.—Notice is hereby given, that the directors have made a further CALL of TWO POUNDS per share on each and every share in this undertaking, and that the same is made PAYABLE on the 29th day of March inst. The proprietors are required to pay the same, on or before the said 29th day of March, to Messrs. Glyn, Halifax, Mills, and Co., bankers, Lombard-street, London.

Interest, at the rate of 5 per cent. per annum, will be charged on all sums remaining unpaid after the said 29th day of March; and if any call shall remain unpaid after one month from that date, the shares will become absolutely forfeited, according to the statutes of the company.—Dated this 5th day of March, 1847.

(Signed) W. P. RICHARDS, President.
11, King William-street, Mansion-house. WILLIAM JESSE, Secretary. 63

PNEUMATIC ENGINE AND SAFETY RAILWAY CARRIAGE COMPANY.

UNDER ROYAL LETTERS PATENT.

Capital £300,000, in 50,000 shares, of £10 each.—Deposit 5s. per share.

The first call will not exceed 10s. per share. 64

The object of this company is to introduce a new system of propulsion, which will supersede the necessity of steam for railways, stationary engines, navigation, and in all other cases where motive-power is required, by the substitution of a new means of power, derived from the atmosphere alone, without the use of lineal tubes, stationary engines, or local machinery of any kind.

Prospectuses, with full details, will be ready in a few days, and may be obtained of Messrs. Wm. Barry and Co., 7, Birchin-lane, Cornhill, and Messrs. Lamond and Co., Hall of Commerce, by whom applications for shares will be received in London.

TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS, requiring RAILWAY AXLES, WHEELS, and IRONWORK for CARRIAGES, &c.; also IRON and STRAINED WIRE FENCES, may be SUPPLIED by MR. EDWARD HILL,

OF BRIERLEY HILL IRON-WORKS, NEAR DUDLEY,

who will give the BEST PRICES for OLD AXLES, and any description of SCRAP IRON 65

ELECTRO-TELEGRAPHIC CONVERSER.—Messrs. BRETT & LITTLE respectfully recommend Directors of Railways, Mining Companies, and others, to DELAY the ADOPTION of any particular TELEGRAPH, until the completion of their patents shall place Brett and Little in a position to introduce a most perfect and effective instrument, at about one-third the cost of those at present in use.—140, Holborn-bars. 66

GALVANIC BATTERY.—CAUTION.—We hereby CAUTION all persons AGAINST MAKING, SELLING, or USING, or CAUSING to be MADE, SOLD, or USED, a CERTAIN BATTERY, denominated a PERCOLATING GALVANIC TROUGH, or altering, or causing to be altered, any description of galvanic battery to that principle—the same being an infringement of our patent right, and a portion of the apparatus connected with our Patent Electro-Telegraphic Converser, for every infringement of which, after this notice, proceedings will be forthwith instituted.

140, Holborn-bars. BRETT & LITTLE. 67

ELECTRO-MAGNETIC TELEGRAPH—GAMBLE AND NOTT'S PATENT.

PATRONISED by H. R. H. PRINCE ALBERT, the LORDS OF THE ADMIRALTY, &c.

The PATENTEES beg to inform all RAILWAY COMPANIES, that they are ready to TREAT with them for the ERECTION of the TELEGRAPH, on any length of railway, on the most reasonable terms.—This instrument, from its simplicity of construction and certainty of action, is, after the most severe test, proved to be the most useful and efficient instrument of the kind ever yet invented, as reported on by Dr. Faraday, Capt. Brandreth, Professor Brande, Dr. Bachhoffner, &c., and, in fact, all the science of the country. 68

It may be seen in daily operation on the London and North-Western Railway, where it is in practical use, between Blisworth and Northampton stations; also, at the Telegraph Office, 2, Royal Exchange-buildings, where all particulars may be obtained, and the report seen.

THE GUTTA PERCHA COMPANY invite the attention of Engineers, Machinists, Millowners, &c. &c., to the PATENT GUTTA PERCHA DRIVING BANDS, which possess the valuable properties of great durability and strength, permanent contractility and uniformity of substance and thickness—thus avoiding all the irregularity of motion, occasioned by piecings and inequality of thickness in leather straps. They are not affected by oils, grease, acids, alkalies, water, &c.; and possess extraordinary facilities for being joined, and hug their work in a remarkable manner; can be had of any width, substance, or length, without joints.

The company continue to receive most satisfactory testimonials of the superior quality of these Bands, which can be seen at the company's WORKS, WHARF-ROAD, CITY ROAD, where all orders will receive immediate attention.

London, March 3, 1847. E. GRANVILLE, Manager. 69

GREAVES'S BLUE LIAS LIME AND CEMENT.—ENGINEERS, ARCHITECTS, CONTRACTORS, &c., are respectfully informed, that the ABOVE ARTICLES can be SUPPLIED by the following AGENTS—viz.:

Messrs. BUTTY and VERET, 2, South Wharf, Paddington.
Mr. J. THOMPSON, Back King-street, Manchester.
Mr. T. WYLIE, 56, Gloucester-street, Liverpool.
Mr. J. HARRISON, Linen Hall-street, Chester.
Mr. J. BONEHILL, Broad-street, Birmingham.
Mr. E. CRYER, Canal Wharf, Oxford. 70

Or, by R. GREAVES'S BOATS, direct from the WORKS, at SOUTHAM, Warwickshire.

N.B.—GROUND LIAS LIME FOR CONCRETE.

Office, Stratford-on-Avon.

NORTH WALES MINING COMPANY—COUNTY OF MERIONETH.

Divided into 12,500 shares—limited to £10 each, and carried out upon

THE COST-BOOK SYSTEM,

With a deposit of £3 10s. per share.

OFFICES—No. 2, NEW BROAD-STREET, LONDON.

COMMITTEE OF MANAGEMENT.

EDWARD F. FENNELL, Esq., 32, Bedford-row.
EDWARD HARDING, Esq., *Manager*, 44, Great Ormond-street.
C. H. R. HARRISON, Esq., 35, Upper Bedford-place, Russell-square.
JAMES HARVEY, Esq., *Resident Manager*, Brynygwin, Dolgelly, North Wales.
J. M. MACDONNELL, Esq., M.P., Reform Club.
WILLIAM HENRY ROUGH, Esq., Middle Temple.
Principal Mining Captain—Capt. W. Williams, Praze, near Camborne, Cornwall.
Managing Clerk at the Mines—Mr. J. C. Goodman.

BANKERS.

In London—Messrs. Glyn, Halifax, Mills, and Co., Lombard-street.
In Wales—Messrs. Jones and Williams, Dolgelly, Merionethshire.

SOLICITORS.

In London—W. W. Fisher, Esq., 3, King-street, Cheapside.
In Wales—Messrs. Owen and Griffiths, Dolgelly, Merionethshire. 71

Analytical Chemist—Andrew Ure, Esq., M.D., F.R.S., F.S.A., Charlotte-st., Bedford-sq.

Purser and Secretary in London—W. T. Griffiths, Esq.

The mines proposed to be worked by this company, extend under a surface of above 1000 acres, and are situated in the neighbourhood of Dolgelly, in the county of Merioneth. They are held on lease from the Crown, and from two of the principal landowners of the county, at the usual Royalty for terms, varying from 21 to 23 years, renewable on payment of a fine.

The affairs of the company will be carried on under the system known in Cornwall as the "Cost-Book" system, and managed by a committee of management chosen from amongst the proprietors. The liability of the shareholders will be limited to the amount of the shares held by them respectively; which liability they can, under the "Cost-Book" system, at any time determine by a relinquishment of their shares. And it is determined by a careful supervision of the expenditure, to ensure that economical management so essential to the success and prosperity of an undertaking of this description.

These mines comprise the following setts:—

No. 1.—TYDDYNYGLWADIS MINES.

Extending under a surface of about 265 acres, and held for a term of 21 years, at a royalty of 1-12th: they contain silver-lead and copper ores, of a very rich quality—samples of which have been assayed by Messrs. Johnson and Cock, Messrs. Johnson and Son, and other assayers—the result proving these mines to be extremely valuable, as will be seen by the following assays:—

Assay Office, Maiden-lane, Oct. 16, 1844.

The sample of lead assayed for James Harvey, Esq., produces fine silver, equal to 94 ozs. per ton. (Signed) JOHNSON & SON.

Assay Office and Metallurgical Works, 79, *Hatton-garden, Dec.* 24, 1844.

The sample of lead marked M contains 11 cwts. of lead to the ton; the lead contains 131 ozs. of fine silver to the ton. (Signed) JOHNSON & COCK.

Assay Office, Maiden-lane, London, July 31, 1845.

The sample marked M and C gives 76 per cent. of lead; it contains 11 ozs. 3 dwts. of fine gold, and 14 ozs. 7 dwts. of fine silver, in the ton of ore. (Signed) JOHNSON & SON.

Assay Office and Metallurgical Works, 79, *Hatton-garden, London, Aug.* 15, 1845.

The sample of lead ore assayed for J. Harvey, Esq., contains 12 cwts. of lead in the ton of 20 cwts., and 105 ozs. of fine silver in the ton of lead. The sample contains a slight trace of gold. (Signed) JOHNSON & CO.

Assay Office, 79, *Hatton-garden, London, Oct.* 5, 1846

The lead ore assayed for J. Harvey, Esq., contained 11 cwts. 0 qr. 2 lbs. of lead, and 39 ozs. 13 dwts. of fine silver to the ton of 20 cwts. (Signed) P. N. JOHNSON & CO.

Assay Office, 79, *Hatton-garden, London, Nov.* 11, 1846.

The sample of galena assayed for J. Harvey, Esq., contains as follows:—Galena, 14 cwts. 7 lbs. of lead, and 119 ozs. of fine silver, in the ton of 20 cwts.

(Signed) P. N. JOHNSON & CO.

175, *High Holborn, Nov.* 21, 1846.

The sample of copper ore (Tyddynyglwadis) contains, in the ton, pure copper about 170 lbs.; fine gold 15 oz. 4 dwts. (Signed) H. W. RUEL.

The sample of lead ore (Mostyn) contains, in the ton, equal to lead 60 per cent.; gold, 14 ozs.; silver, 60 ozs. (Signed) H. W. RUEL.

175, *High Holborn, Jan.* 29, 1847.

I find, on assaying the ore marked (Dingle Lode), that it contains about 2 ozs. of fine gold in the ton. (Signed) H. W. RUEL.

No. 2.—CLOGAU MINE.——No. 3.—VIGRA MINE.

These two mines, extending under a surface of about 650 acres, are situated on two opposite mountains; and held on lease from the Crown for 21 and 23 years respectively, at a Royalty of one-tenth. They contain copper ore yielding from 6 to 20 per cent. of pure metal; and some silver-lead ore of a very rich quality. Extensive workings have been made in both these mines, and much valuable ore has been taken out and shipped to Swansea. The lode is very rich and promising—the vein increasing in width, and the quality of the ore improving in value as the works are proceeded with.—The following are copies of the assays, showing the quality of the ore produced from these two mines:—

Assay Office, Maiden-lane, July 29, 1844.

The sample of copper pyrites, assayed for James Harvey, Esq., produces equal to 17½ per cent. of pure copper. (Signed) JOHNSON & SON.

Assay Office and Metallurgical Works, 79, *Hatton-garden, London, Dec.* 20, 1844.

The samples of copper ore assayed for James Harvey, Esq., produce as follows:—

No. 1.	V.—Pure copper	5½ per cent.
2.	V.—Ditto	14½ "
1.	C.—Pure copper	16½ "
2.	C.—Ditto	5½ "

(Signed) JOHNSON & COCK.

Feb. 18, 1845.—The sample of copper ore assayed for James Harvey, Esq., produced 19 per cent. of pure copper. (Signed) JOHNSON & SON.

5 A, *Hawley-road, Kentish Town, London, July* 10, 1845.

This is to certify, that we have examined a sample of silver-lead ore, sent by J. Harvey, Esq., of Dolgelly, and find it contains 41½ per cent. of lead, and 31 ozs. 7 dwts. of silver to the ton of metallic lead. (Signed) MITCHELL & FIELD.

Assay Office, 79, *Hatton-garden, London, Oct.* 5, 1846.

The lump of copper ore assayed for James Harvey, Esq., produced 20½ per cent. of pure copper, but no gold. (Signed) P. N. JOHNSON & CO.

Assay Office, Gresham-street, London, Nov. 5, 1846.

The sample tried for copper gives, by a single experiment, the following proportions of that metal:—Clogau B, 15½ per cent. (Signed) JOHNSON & SONS.

Assay Office, 79, *Hatton-garden, London, Nov.* 11, 1846.

The sample of pyrites, assayed for James Harvey, Esq., contains as follows:—Pyrites, 12 per cent. of pure copper, and 7 dwts. of fine gold, in the ton of 20 cwts. (Signed) P. N. JOHNSON & CO.

Assay Office, 79, *Hatton-garden, London, Nov.* 14, 1846.

The samples assayed produce as follows:—No. 3, 13½ per cent. of copper, with slight trace of gold.—No. 4, 24 per cent. of copper, with trace of gold. (Signed) P. N. JOHNSON & CO.

No. 4.—DOLFRWYNOG MINE.

This mine has been well explored, and gives every indication of containing a very large body of copper ore. It extends under about 110 acres of land, and is held on lease for 21 years, at one-tenth Royalty. The surface of this sett is so strongly impregnated with copper, that some time since a portion of the surrounding peat was taken up and burned; the result yielding a large per centage of metal, many thousand pounds' worth of which was sent to market. Samples of the ore taken from the different sinks and levels of this mine have been assayed by Messrs Johnson and Son, and other assayers, who certify that it contains at the rate of from 5 to 20 per cent. of pure metallic copper.—The following are copies of a report upon, and assays of samples of copper ore taken from this sett:—

REPORT BY DR. ANDREW URE, F.R.S.

1. MALACHITE, in small crystals deposited on the surface of the gangue, or vein rock. These crystals, when detached by a chisel or sharp-edged hammer, afford an ore which contains 58 per cent. of pure metallic copper of the best quality, free from sulphur; but as they cannot, in practice on the rough scale of sorting and picking, be detached without leaving two parts of rock attached; the ore which may be got from the said rock will contain about one-third of 58 per cent. of pure metallic copper (say 19 per cent.)—2. FLOOKAN.—This is a clay vein stone, impregnated with pure oxide of copper, and contains, on an average, in the best blue or greenish coloured lumps, about 10 per cent. of metallic copper, free from sulphur. The most valuable feature in these two ores, next to their richness in metal, is the absence of sulphur in them, which deteriorates almost all the English copper ores, and also the quality of our copper.

(Signed) ANDREW URE.

ASSAY BY MESSRS. JOHNSON AND SONS OF ORES TAKEN FROM THIS MINE.

Assay Office, Gresham-street, London, Nov. 5, 1846.

The sample tried for copper, gives by a single experiment, the following proportions of that metal:—Dolfwynog R, 14½ per cent. The sample gossan marked H gives a product of fine silver, equal to 11 ozs. 18 dwts., and of fine gold, equal to 3 dwts. 6 grs., in the ton of 20. cwts. (Signed) JOHNSON & SONS.

Assay Office, 79, *Hatton-garden, Nov.* 14, 1846.

Sample assayed produces as follows:—11¼ per cent. of copper, with slight trace of gold. (Signed) P. N. JOHNSON & CO.

The above assays, as well as many others made by some of the principal assayers of the present day, of ores taken fairly and indiscriminately from the different mines, as will appear on reference to the prospectus of the company, testify to the richness of this mining property; and establish the fact, not only that copper and silver-lead ores, of the richest quality, exist in this locality, but that gold has been found in the gossans, as well as in combination with the other minerals; and, although it is not asserted that gold will be discovered in sufficient abundance to pay for its extraction alone, yet there can be no doubt that any quantity of the precious metal which may be obtained, must greatly augment the profit which may reasonably be expected, from an undertaking having for its primary object the working of copper and silver-lead ores, of so rich a quality as those contained in these mines.

The proximity of these mines to the sea—the Port of Barmouth being only from five to eight miles distant, and a navigable river running from the base of the mountains to that port—admits of the ores being shipped, and the materials for the use of the mines landed without incurring the heavy expense of land-carriage, &c. There is an abundant supply of water for the working of every description of machinery; and the mountainous character of the country affords an opportunity of fully working the mines by means of adit levels, which will unwater them, and at the same time admit of the ores being brought to the dressing-floors without the expensive auxiliaries of steam-power, so necessary in other parts of England, where the country does not furnish such natural facilities.

Under these favourable circumstances, and taking into consideration the extent of the grants, amounting to above 1000 acres of land, admitted by geologists, and proved by experience, to be so rich in mineral produce; together with the advantages derivable from the natural facilities of the country, and the cheapness of labour; it is reasonable to anticipate a very large return for a comparatively small outlay, as well as an almost unlimited power of increasing the profit by a further disbursement of capital in the undertaking.

It is proposed by the issue of shares to raise a capital to work these mines; and in consequence of a large portion of the purchase money being contingent upon the success of the undertaking, a deposit of £2 10s. per share will be sufficient to commence operations; while it is not anticipated that more than £2 10s. additional upon each share (to be called for at future periods, and in such amounts as may be necessary, due notice being given of such calls), will be required to carry on the operations of the company. The fact of the mines having been already opened at a considerable outlay, yielding notwithstanding a large profit; and of there being now a considerable quantity of ore at the mouths of the levels, in a partially dressed state, warrants the strongest expectations that the return upon the capital subscribed will be almost immediate.

Reports of the present state and capabilities of the several mines have been made by eminent mining engineers; but as they are too lengthened to be comprised within the limits of a prospectus, printed copies may be had on application at the offices of the company, 2, New Broad-street, London, where specimens of the ores may also be inspected.

Persons desirous of visiting the mines, can do so on applying to the purser, at the offices of the company; or to James Harvey, Esq., Brynygwin, Dolgelly, North Wales, who will give letters of introduction for such purpose.

Application for prospectuses and shares, to be made to the purser at the offices of the company; the solicitors; and Mr. B. Rankin, stockbroker, 23, Tokenhouse-yard, London. Copies of the prospectus can also be had at the office of the *Mining Journal*, 26, Fleet-street, London.

Price Two Shillings and Sixpence,

THE PRESENT STATE AND FUTURE PROSPECTS OF THE MONMOUTHSHIRE CANAL COMPANY CONSIDERED: In a LETTER, addressed to the Committee of Management.

BY JAMES BROWN. 72

Published for the author, by JOHN WEALE, Architectural Library, 59, High Holborn; sold also by Joseph Grout (opposite King's Head Hotel), Newport, Monmouthshire.

MINING ADVENTURERS' SUBSCRIPTION ROOM, AND REGISTRY OFFICE,

For the Sale and Purchase of Mining Shares.

CROSSMAN, SOMMERS, AND CO., AGENTS,

28, *THREADNEEDLE-STREET, LONDON.* 73

PROSPECTUS.

It is a subject of general regret, and continual complaint, amongst parties extensively engaged in mining operations in Cornwall and Devon, and who are annually devoting much time and money to the development of the mineral resources of this country, that there is not at present, and never yet has been, an open and well organised Market for the Sale of Mining Shares.

It is, by such parties, universally admitted, that the absence of an office for the registry of Mining Shares on Sale, has entailed, both on the seller and the purchaser, innumerable evils, under which the mining interest has hitherto suffered, and under which it will continue to be depressed, until a system be adopted, embracing the *requisite publicity* which should be afforded to *all property for sale*, with the *prudent concealment* of all *personal facts* which are *not essential in establishing* its *intrinsic or marketable value*. To obviate this evil, and in pursuance of a plan suggested by several of the most influential mining adventurers

Messrs. CROSSMAN, SOMMERS, & CO.,

Beg leave to announce, that they have ESTABLISHED OFFICES at No. 28, THREADNEEDLE-STREET, LONDON, wherein they propose to CONDUCT the BUSINESS of GENERAL MINING SHARE AGENTS, upon the following principle, to the rigid fulfilment of which they hereby pledge themselves:—

To abstain from all jobbing in shares, and from the purchase of shares on their own behalf, whilst professing to act as agents for the sale or purchase for others.

To register, and submit such register to all applicants, the number and price of all shares of which a sale is authorised—such authority to be produced, if required, upon the completion of any transaction.

To receive one uniform rate of commission—such commission to be chargeable upon the party authorising the sale or purchase, at the rate of £5 per cent., if the amount be under £50, and £2½ per cent. upon any amount exceeding £50.

To register all offers for shares, and to submit the same to such parties as shall have registered their shares at this office.

To receive, and lay open for inspection, reports from authenticated agents, or well-accredited parties only—such report being obtained upon absolute survey and inspection; and to abstain from the sale of shares in any mine of which the debts and liabilities, at the last audit of accounts, cannot be obtained.

The offer for quotation in the *Mining Journal*, and in any other weekly paper devoted to such purposes, the price of shares registered for sale; as also the price upon which a sale or purchase has been effected, and upon which the commission has absolutely been paid.

In connection with the foregoing, and under the support and patronage of many influential mining adventurers, Messrs. Crossman, Sommers, and Co. have appropriated a room, intended to form a nucleus of a

MINING ADVENTURERS' ASSOCIATION, OR SUBSCRIPTION ROOM.

The annual subscription to be One Guinea, which will entitle the subscriber to the daily use of the room, of the mining periodicals, and to the depositing and exhibiting of specimens of ore, and reports connected therewith.

The above annual subscription shall entitle a mining company to the exhibition of specimens, reports, and the *entrée* of their purser or captain.

It is intended, should this subscription room receive the support and patronage of adventurers generally, to obtain more ample accommodation for establishing an association in every respect commensurate with the important interest thereby represented; and to attempt to associate with mining adventurers such scientific parties, not being adventurers, as may be desirous to cultivate, or extend, a knowledge of this most important branch of national wealth, by affording the practical miner and the geologist more frequent opportunities of communication and association.—March, 1847.

BY HER MAJESTY'S LETTERS PATENT.

BRUNTON'S ORE-DRESSING FRAME.—These FRAMES, for DRESSING TIN, COPPER, and OTHER MINERALS, having been in use, and given satisfaction, on several mines, during the last two years, the PATENTEE begs to call the attention of all Adventurers and Mine Agents to the great advantages, both as regards economy of labour and the great increase of mineral obtained by their adoption, as

THE FOLLOWING TESTIMONIALS WILL CERTIFY:

Penzance, Feb. 6, 1847.

Two of Mr. Brunton's Frames have been at work at Wheal Gray Mine about six weeks. From the reports of the agents, as well as from our own observation, we have reason to believe, that, by the use of these Frames, there will not only be a great saving of labour, but that the work will be done better than by the common frames.

THOMAS BOLITHO & SONS. 74

Ward House, Beer, near Tavistock, Nov. 10, 1846.

MY DEAR SIR,—I have much pleasure in bearing testimony to the utility of your Patent Frames, which I look upon as one of the greatest improvements in tin dressing particularly; and have no doubt of their answering for returning lead and copper, where the ore is obliged to be reduced to a small size. The frames answer well at Tincroft Mines; and I am desirous (as the inclosed offer will show) to introduce them at our other tin mines, and the Tamar-head Silver Mines. Yours, very truly,

Mr. Wm. Brunton, jun. —— P. N. JOHNSON.

Cook's Kitchen Mine, Nov. 19, 1846.

SIR,—We have had your Patent Frames working in this mine for the last 18 months—during which time I have had them severely tested; and am happy to inform you, that I have found them, in every way, superior to the old method of dressing; and I am convinced, that it is to the interest of mines in general to use them.—I am anxious to have the last four I ordered erected as soon as possible. I am, Sir, your obedient servant,

Mr. Wm. Brunton, jun. —— JOSEPH VIVIAN.

St. Ives Consols, Dec. 7, 1846.

DEAR SIR,—Your Patent Frames have been working in this mine for 18 months, and I am happy to bear my unbiassed testimony to their utility. They are a very great improvement, in tin dressing, on the old method; and I am convinced, if your Frames were in general use in this county, the saving in labour would be considerable, and an increase of mineral obtained in the first process. I am, dear Sir, yours respectfully,

Mr. Wm. Brunton, jun. —— RICHARD KERNICK.

Birch Tor Mines, Dec. 3, 1846.

MY DEAR SIR,—Your Frames having been at work for the last four months on this mine, I have much pleasure in bearing testimony to their utility in tin dressing. We find them very superior to any thing else now in use, both as regards dispatch and cheapness; and we also find the tin cleaned by them to be of a much higher produce. I have also tried copper slimes on them, and find they are equally as beneficial in dressing these ores as they are in the dressing of tin. Yours very truly,

Mr. Wm. Brunton, jun. —— R. EDWARDS.

Camborne, Nov. 26, 1846.

DEAR SIR,—We have examined your Frames at Cook's Kitchen, and are of opinion, that they are vastly superior to any other for the purpose of cleaning ores; and will, doubtless, supersede every other now in use. They are neat, well constructed, scientific-looking machines, and can be worked at much less cost, and render the ores of higher produce, than any other we have seen. Yours truly,

NICHS. VIVIAN,
Mr. Wm. Brunton, jun. —— NICHS. VIVIAN, Jun.

Carn Brea Mines.

We, the undersigned, have great pleasure in testifying to having used Mr. Brunton's Patent Frames on these mines for the last eight months; and also to the great saving effected by them in the dressing of our tin ores. JAMES MINERS,
NICHOLAS LENTEN,
MATTHEW ROGERS, Sen.
WILLIAM WEBB,
WILLIAM ROBERTS,
JOHN DAW,
JOHN VIVIAN.

LICENSES can be obtained, and all information given, upon application to the PATENTEE, POOL, NEAR REDRUTH.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.—ESTABLISHED 1824.

Persons of all ages, and in every station, may assure with this society on very moderate terms.—No extra premium is required for sea risk, or residence in going to, residing at, or returning from, any part of Europe. Those wishing to visit, or reside in, other parts of the world, may also effect policies at a small increase of premium.

FOURTH DIVISION OF PROFITS. 75

A detailed Report (just published) of all the BONUSES declared—a statement of the LARGE RESERVE FUND—the favourable prospects of those NOW ASSURING—and the state of the society generally—can be obtained, free of expense, of any of the society's agents, or by addressing a letter to GEO. H. PINCKARD, Resident Secretary,

No. 78, Great Russell-street, Bloomsbury, London.

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*** It will at all times save much delay and inconvenience, if communications are directed simply TO THE EDITOR, *Mining Journal Office*, 26, FLEET-STREET, LONDON.

And POST-OFFICE ORDERS, &c., must be made payable to WILLIAM SALMON MARKLY, as acting for the proprietors.